SUPERVISOR/ADMINISTRATIVE PROFESSIONAL CHECKLIST

NEW SEPTIC ☑ ✓ NEW WELL ☐ USE EXISTING ☐ MODIFIED PLOT PLAN ☐

* CA will not be granted until all parcels are combined into on parcel. Must be deeded & Recorded. ✓

New Septic Fees Paid

450 ✓

IP (~~$250.00~~) 2/19/21 LE Initial/Date

CA ($200.00) 2/19/21 LE Initial/Date

OP ($200.00) 2/19/21 LE Initial/Date

(CA and OP fees need to be paid before a building permit can be issued)

New Well Fees Paid: $550.00 _____ Initial/Date

Use Existing Fees Paid: $100.00 _____ Initial/Date

Alteration Fees Paid: $300 Total $200 _____ Initial/Date (If use existing was part of payment)

Modified Plot Plan Fees Paid: $100.00 _____ Initial/Date

Generate CA / Approve & Noted

Floor plans need to be submitted and reviewed before CA can be issued ☑ ✓ Review ☐

This site is served by septic and well. Verify each is complete before final hold is released ☐

Septic file complete ☑ ✓ 8/22/24 Well complete ☐ _____

Send permit for signature ☒ ✓ Signature received ☐ _____

This septic system requires a certified operation contract before final hold is released ☐

Certified operator contract is on file ☐ _____

Please Release any hold in the system

SUPERVISOR/ADMINISTRATIVE PROFESSIONAL CHECKLIST

NEW SEPTIC ☑ NEW WELL ☐ USE EXISTING ☐ MODIFIED PLOT PLAN ☐

New Septic Fees Paid

IP ($250.00) _____ Initial/Date

IP ($450.00) UP 12/9/22 Initial/Date

CA ($200.00) _____ Initial/Date

OP ($200.00) _____ Initial/Date

(CA and OP fees need to be paid before a building permit can be issued)

New Well Fees Paid: $550.00 _____ Initial/Date

Use Existing Fees Paid: $100.00 _____Initial/Date

Alteration Fees Paid: $300 Total $200 _____Initial/Date (If use existing was part of payment)

Modified Plot Plan Fees Paid: $100.00 _____Initial/Date

Floor plans need to be submitted and reviewed before CA can be issued ☐ Review ☐

This site is served by septic and well. Verify each is complete before final hold is released ☐

Septic file complete ☐_____ Well complete ☐ _____

Send permit for signature ☐ Signature received ☐ _____

This septic system requires a certified operation contract before final hold is released ☐

Certified operator contract is on file ☐ _____

MECKLENBURG COUNTY
LAND USE AND ENVIRONMENTAL SERVICES
Payment Receipt

Receipt Information

Date:	09/13/23	**Amount:**	200.00
Receipt #:	144352	**Tendered:**	200.00
Check / Auth #:	MC 02458Z	**Returned:**	0.00
Received By:	ORTIZMP		

Account Information

Account #: 200000
Contractor: LUCAS, JEFF
Attn:
Address: 136 BRYSON RD
Address:
City/State/Zip: FOREST CITY, NC 28043

Item	Description	Permit#	Quantity	Unit Price	Total Price
0734	Septic Construction Authorizat 7535 OLD DOWD RD		1	200.00	200.00

----------Outstanding Balances----------

Month-To-Date	Prior Month	30 Days	60 Days	90 Days	Balance
				555.00	

MECKLENBURG COUNTY
LAND USE AND ENVIRONMENTAL SERVICES
Payment Receipt

Receipt Information

Date:	09/13/23	**Amount:**	200.00
Receipt #:	144353	**Tendered:**	200.00
Check / Auth #:	MC 02458Z	**Returned:**	0.00
Received By:	ORTIZMP		

Account Information

Account #: 200000
Contractor: LUCAS, JEFF
Attn:
Address: 136 BRYSON RD
Address:
City/State/Zip: FOREST CITY, NC 28043

Item	Description	Permit#	Quantity	Unit Price	Total Price
0703	Septic Operational Permit 7535 OLD DOWD RD		1	200.00	200.00

----------Outstanding Balances----------

Month-To-Date	Prior Month	30 Days	60 Days	90 Days	Balance
				555.00	

MECKLENBURG COUNTY
HEALTH DEPARTMENT

1089B #11948

APPLICATION FOR A COMMERCIAL SITE IMPROVEMENT PERMIT/ CONSTRUCTION AUTHORIZATION FOR AN ON-SITE WASTEWATER SYSTEM, NEW WELL INSTALLATION, OR REPAIR OF EXISTING WELL

FEB '21 AM 9:20

1. **SEPTIC / TYPE APPLICATION:** ○ N/A ◉ NEW SYSTEM ○ ALTERATION ○ REPAIR ○ MODIFIED PLOT PLAN

2. **WELL / TYPE APPLICATION:** ◉ N/A ○ NEW WELL ○ MAJOR REPAIR ○ ABANDONMENT

3. **JOB LOCATION INFORMATION:**

TAX PARCEL NUMBER: 11309203

STREET ADDRESS: ~~7320 Wallace Neel Rd~~ 7320 old Dowd Rd

CITY: Charlotte

STATE: NC ZIP: 28214

TOWNSHIP:

○ MECKLENBURG ○ CORNELIUS ○ HUNTERSVILLE
○ DAVIDSON ◉ CHARLOTTE ○ PINEVILLE
○ MATTHEWS ○ MINT HILL

4. **BUILDING INFORMATION:**

DESCRIBE TYPE OF BUSINESS: Airport Overlook

◉ COMMERCIAL ○ INDUSTRIAL

SQUARE FOOTAGE OF FACILITY: 0

NUMBER OF EMPLOYEES PER SHIFT: 0

NUMBER OF SHIFTS: 0 NUMBER OF SEATS: 156

TYPE OF WASTEWATER GENERATED:

◉ DOMESTIC SEWAGE ○ INDUSTRIAL WASTEWATER
○ OTHER _____

5. ***IF PLANNING TO EXPAND OR ALTER THE EXISTING SEPTIC SYSTEM, INFORMATION DOCUMENTING THE INCREASED WASTEWATER FLOW AND/OR A JUSTIFICATION FOR SYSTEM ALTERATION IS REQUIRED.*** ☑ N/A

6. **WATER SUPPLY:** ◉ MUNICIPAL ○ PRIVATE WELL ○ PUBLIC WELL ○ SHARED WELL ○ OTHER _____

7. **PROPOSED USE OF WELL:** ◉ N/A ○ IRRIGATION ○ POTABLE (DRINKING WATER) ○ OTHER _____

8. **PLEASE INDICATE AND RANK DESIRED SEPTIC SYSTEM TYPE(S) IN ORDER OF PREFERENCE** *(1-MOST DESIRED 5-LEAST DESIRED):*

☐ N/A ☑ ANY TYPE ☑ CONVENTIONAL ☑ ACCEPTED ☑ INNOVATIVE ☑ ALTERNATIVE ☐ OTHER _____

8A. **RANK:** 1 2 4 3 ____

9. **DO ANY OF THE FOLLOWING APPLY TO THE PROPERTY IN QUESTION? IF "YES" PLEASE ATTACH SUPPORTING DOCUMENTATION.**

BURIED CABLES, LANDFILLS, STUMPHOLES	○ YES ◉ NO	GRADING/SOIL REMOVAL PERFORMED	○ YES ◉ NO
EXISTING WASTEWATER (SEPTIC) SYSTEMS	○ YES ◉ NO	JURISDICTIONAL WETLANDS	○ YES ◉ NO
WELLS, SPRINGS, OR WATER LINES	○ YES ◉ NO	APPROVAL REQUIRED BY ANY OTHER PUBLIC AGENCY	◉ YES ○ NO
EASEMENTS OR RIGHT-OF-WAYS	○ YES ◉ NO	WASTEWATER OTHER THAN DOMESTIC SEWAGE	○ YES ◉ NO
CHEMICAL/PETROLEUM STORAGE TANKS	○ YES ◉ NO	KNOWN UNDERGROUND CONTAMINATION	○ YES ◉ NO
WASTE STORAGE	○ YES ◉ NO	GROUNDWATER USE RESTRICTIONS/VARIANCES	○ YES ◉ NO

10. **WHAT DATE WAS THE PROPERTY ORIGINALLY DEEDED AND RECORDED?** _____ ☑ UNKNOWN

11. **WHAT IS THE ANTICIPATED CLOSING DATE FOR THIS PROPERTY?** _____ ☑ N/A

12. **PROPERTY OWNER:**

NAME: City of Charlotte
ADDRESS: 600 East 4th Street
CITY: Charlotte
STATE: NC ZIP: 28202
WORK PHONE: (704) 336-2291
MOBILE PHONE: _____
FAX: _____
E-MAIL: gscommunications@charlottenc.gov

13. **OWNER'S LEGAL REPRESENTATIVE, IF APPLICABLE:**

NAME: Jeff McSwain
ADDRESS: 5601 Wilkinson Blvd
CITY: Charlotte
STATE: NC ZIP: 28208
WORK PHONE: (704) 359-1913
MOBILE PHONE: (704) 622-1303
FAX: (704) 632-8432
E-MAIL: jmcswain@cltairport.com

MECKLENBURG COUNTY – GROUNDWATER & WASTEWATER SERVICES
3205 Freedom Dr. Suite 8000, Charlotte, NC 28208 OFFICE: (980) 314-1680, FAX: 704-336-6894

Revised on: 03/27/19

14. SEPTIC SYSTEM PERMIT APPLICATION:

If the information in this application is falsified, changed, or the site is altered, then the Improvement Permit and Authorization to Construct shall become invalid. I have read this application and certify that the information provided herein is true, complete and correct. Authorized county and state officials are granted right of entry to conduct necessary inspections to determine compliance with applicable laws and rules. I understand that I am solely responsible for the proper identification and labeling of all property lines and corners and making the site accessible so that a complete site evaluation can be performed. The permit is valid for either sixty (60) months or is non-expiring depending upon the documentation submitted: complete site plan = 60 months, complete plat = non-expiring.

_____ (Initial here for septic system applications)

15. WELL PERMIT APPLICATION:

If the information in this application is falsified, changed, or the site is altered, then the Well Permit shall become invalid. I have read this application and certify that the information provided herein is true, complete and correct. Authorized county and state officials are granted right of entry to conduct necessary inspections to determine compliance with applicable laws and rules. I understand that I am solely responsible for the proper identification and labeling of all property lines and corners and making the site accessible so that a complete site evaluation can be performed. The permit is valid for a period of twelve (12) months from the date of issuance.

_____ (Initial here for well applications)

16. APPLICATION SIGNATURE SECTION:

ONLY COMPLETE APPLICATIONS WILL BE PROCESSED. A proper signature is required in order to process your application. Please review the application carefully and sign in the space provided below. A PROPOSED PLOT PLAN is required to be submitted with each application.

Jeff McSwain
Property Owner's or Owner's Legal Representative Signature

2/10/2021
Date

OFFICE USE ONLY

○ SURVEY PLAT TO SCALE SUBMITTED ○ SCALED SITE PLAN SUBMITTED ○ UN-SCALED SITE PLAN SUBMITTED

SEPTIC APPLICATION FEE RECEIVED: $ _____ DATE FEE RECEIVED: _____

WELL APPLICATION FEE RECEIVED: $ _____ DATE FEE RECEIVED: _____

APPLICATION PROCESSED BY: _____

GWS FILE NUMBER ASSIGNED: _____

APPLICATION ID NUMBER ASSIGNED: _____

COMMENTS:

MECKLENBURG COUNTY – GROUNDWATER & WASTEWATER SERVICES
3205 Freedom Dr. Suite 8000, Charlotte, NC 28208 OFFICE: (980) 314-1680, FAX: 704-336-6894

Revised on: 03/27/19

11558B
#13524 23 NOV '22 PM 2:11

MECKLENBURG COUNTY
HEALTH DEPARTMENT

APPLICATION FOR A COMMERCIAL SITE IMPROVEMENT PERMIT/ CONSTRUCTION AUTHORIZATION FOR AN ON-SITE WASTEWATER SYSTEM, NEW WELL INSTALLATION, OR REPAIR OF EXISTING WELL

1. **SEPTIC / TYPE APPLICATION:** ○ N/A ◉ NEW SYSTEM ○ ALTERATION ○ REPAIR ○ MODIFIED PLOT PLAN

2. **WELL / TYPE APPLICATION:** ○ N/A ○ NEW WELL ○ MAJOR REPAIR ○ ABANDONMENT

3. **JOB LOCATION INFORMATION:**

TAX PARCEL NUMBER: 11309203

STREET ADDRESS: 7535 Old Dowd Road

CITY: Charlotte

STATE: NC **ZIP:** 28208

TOWNSHIP:

◉ MECKLENBURG ○ CORNELIUS ○ HUNTERSVILLE
○ DAVIDSON ○ CHARLOTTE ○ PINEVILLE
○ MATTHEWS ○ MINT HILL

4. **BUILDING INFORMATION:**

DESCRIBE TYPE OF BUSINESS: CLT Airport
New Overlook Restroom Facilities

◉ COMMERCIAL ○ INDUSTRIAL

SQUARE FOOTAGE OF FACILITY: 638

NUMBER OF EMPLOYEES PER SHIFT: 0

NUMBER OF SHIFTS: 0 **NUMBER OF SEATS:** 0

TYPE OF WASTEWATER GENERATED:

◉ DOMESTIC SEWAGE ○ INDUSTRIAL WASTEWATER
○ OTHER _____

5. ***IF PLANNING TO EXPAND OR ALTER THE EXISTING SEPTIC SYSTEM, INFORMATION DOCUMENTING THE INCREASED WASTEWATER FLOW AND/OR A JUSTIFICATION FOR SYSTEM ALTERATION IS REQUIRED.*** ☐ N/A

6. **WATER SUPPLY:** ○ MUNICIPAL ○ PRIVATE WELL ○ PUBLIC WELL ○ SHARED WELL ○ OTHER _____

7. **PROPOSED USE OF WELL:** ○ N/A ○ IRRIGATION ○ POTABLE (DRINKING WATER) ○ OTHER _____

8. **PLEASE INDICATE AND RANK DESIRED SEPTIC SYSTEM TYPE(S) IN ORDER OF PREFERENCE** *(1-MOST DESIRED 5-LEAST DESIRED):*

☐ N/A ☐ ANY TYPE ☑ CONVENTIONAL ☐ ACCEPTED ☐ INNOVATIVE ☐ ALTERNATIVE ☐ OTHER _____

8A. **RANK:** ____ ____ ____ ____ ____

9. **DO ANY OF THE FOLLOWING APPLY TO THE PROPERTY IN QUESTION? IF "YES" PLEASE ATTACH SUPPORTING DOCUMENTATION.**

BURIED CABLES, LANDFILLS, STUMPHOLES	◉ YES ○ NO	GRADING/SOIL REMOVAL PERFORMED	◉ YES ○ NO
EXISTING WASTEWATER (SEPTIC) SYSTEMS	○ YES ◉ NO	JURISDICTIONAL WETLANDS	○ YES ◉ NO
WELLS, SPRINGS, OR WATER LINES	○ YES ◉ NO	APPROVAL REQUIRED BY ANY OTHER PUBLIC AGENCY	○ YES ◉ NO
EASEMENTS OR RIGHT-OF-WAYS	◉ YES ○ NO	WASTEWATER OTHER THAN DOMESTIC SEWAGE	○ YES ◉ NO
CHEMICAL/PETROLEUM STORAGE TANKS	○ YES ◉ NO	KNOWN UNDERGROUND CONTAMINATION	○ YES ◉ NO
WASTE STORAGE	○ YES ◉ NO	GROUNDWATER USE RESTRICTIONS/VARIANCES	○ YES ◉ NO

10. **WHAT DATE WAS THE PROPERTY ORIGINALLY DEEDED AND RECORDED?** 11/7/79 ☐ UNKNOWN

11. **WHAT IS THE ANTICIPATED CLOSING DATE FOR THIS PROPERTY?** _____ ☑ N/A

12. **PROPERTY OWNER:**

NAME: City of Charlotte (Charlotte Douglas International Airport)
ADDRESS: 5601 Wilkinson Blvd
CITY: Charlotte
STATE: NC ZIP: 28208
WORK PHONE: (704) 359-4900
MOBILE PHONE: _____
FAX: _____
E-MAIL: jlchristine@cltairport.com

13. **OWNER'S LEGAL REPRESENTATIVE, IF APPLICABLE:**

**Owner's Authorization form is required if legal representative is submitting application*

NAME: _____
ADDRESS: _____
CITY: _____
STATE: _____ ZIP: _____
WORK PHONE: _____
MOBILE PHONE: _____
FAX: _____
E-MAIL: _____

MECKLENBURG COUNTY – GROUNDWATER & WASTEWATER SERVICES
3205 Freedom Dr. Suite 8000, Charlotte, NC 28208 OFFICE: (980) 314-1680, FAX: 704-336-6894

Revised on: 03/27/19

14. SEPTIC SYSTEM PERMIT APPLICATION:

If the information in this application is falsified, changed, or the site is altered, then the Improvement Permit and Authorization to Construct shall become invalid. I have read this application and certify that the information provided herein is true, complete and correct. Authorized county and state officials are granted right of entry to conduct necessary inspections to determine compliance with applicable laws and rules. I understand that I am solely responsible for the proper identification and labeling of all property lines and corners and making the site accessible so that a complete site evaluation can be performed. The permit is valid for either sixty (60) months or is non-expiring depending upon the documentation submitted: complete site plan = 60 months, complete plat = non-expiring.

_____ (Initial here for septic system applications)

15. WELL PERMIT APPLICATION:

If the information in this application is falsified, changed, or the site is altered, then the Well Permit shall become invalid. I have read this application and certify that the information provided herein is true, complete and correct. Authorized county and state officials are granted right of entry to conduct necessary inspections to determine compliance with applicable laws and rules. I understand that I am solely responsible for the proper identification and labeling of all property lines and corners and making the site accessible so that a complete site evaluation can be performed. The permit is valid for a period of twelve (12) months from the date of issuance. N/A (Initial here for well applications)

16. APPLICATION SIGNATURE SECTION:

ONLY COMPLETE APPLICATIONS WILL BE PROCESSED. A proper signature is required in order to process your application. *Please review the application carefully and sign in the space provided below.* A PROPOSED PLOT PLAN is required to be submitted with each application.

_____ 11/17/22

Property Owner's or Owner's Legal Representative Signature — Date

OFFICE USE ONLY

○ SURVEY PLAT TO SCALE SUBMITTED ○ SCALED SITE PLAN SUBMITTED ○ UN-SCALED SITE PLAN SUBMITTED

SEPTIC APPLICATION FEE RECEIVED: $ _____ DATE FEE RECEIVED: _____

WELL APPLICATION FEE RECEIVED: $ _____ DATE FEE RECEIVED: _____

APPLICATION PROCESSED BY: _____

GWS FILE NUMBER ASSIGNED: _____

APPLICATION ID NUMBER ASSIGNED: _____

COMMENTS:

MECKLENBURG COUNTY – GROUNDWATER & WASTEWATER SERVICES
3205 Freedom Dr. Suite 8000, Charlotte, NC 28208 OFFICE: (980) 314-1680, FAX: 704-336-6894

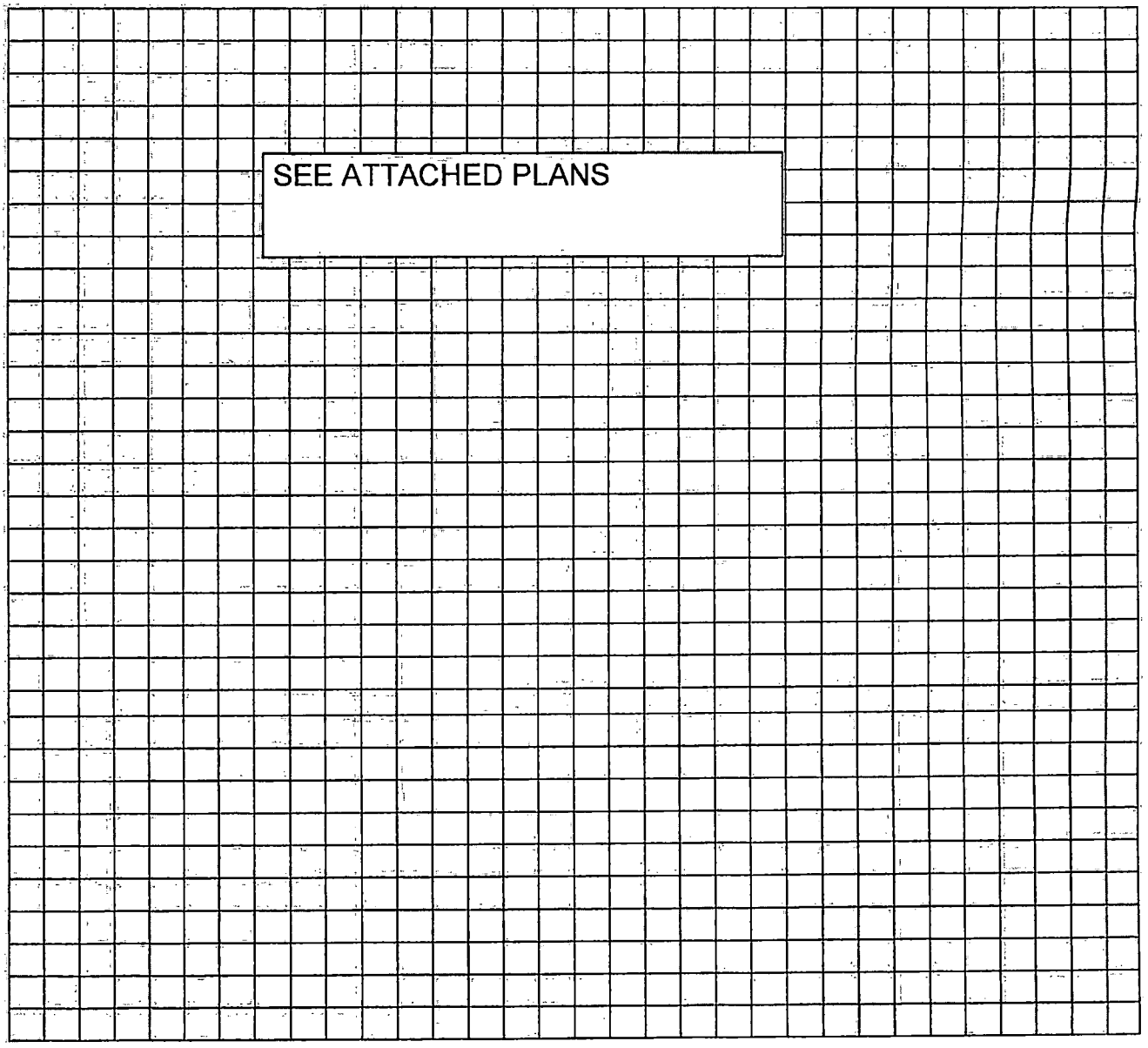
File #: _____

PROPOSED PLOT PLAN

A drawing showing the locations of the following items is required: existing and proposed property lines with dimensions, easements or right-of-ways, proposed building pad(s) or existing building footprint(s), all appurtenances (garage, driveway, deck, pool, etc.), location of existing or proposed well(s), location of existing or proposed sewer lines and sewage disposal systems, surface water bodies, and any aboveground or underground storage tanks. Provide names for all roads that adjoin the property.

Street Address: 7535 OLD DOWD RD CHARLOTTE 28214 Tax Parcel #: 11309203

Subdivision Name: _____ Lot #: _____



Property Owner's or Owner's Legal Representative Signature

Date

MECKLENBURG COUNTY
LAND USE AND ENVIRONMENTAL SERVICES
Payment Receipt

Receipt Information

Date: 12/09/22
Receipt #: 138849
Check / Auth #: CHECK 5703
Received By: PLACILJ

Amount: 450.00
Tendered: 450.00
Returned: 0.00

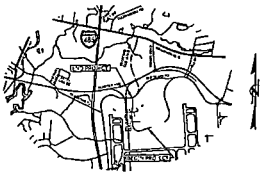
Account Information

Account #: 200000
Contractor: STV ENGINEERS
Attn: ANDREW VANCE
Address:
Address:
City/State/Zip: ,

Item	Description	Permit#	Quantity	Unit Price	Total Price
0735	Improv Permit Appl-Comm 7535 OLD DOWD RD		1	450.00	450.00

----------Outstanding Balances----------

Month-To-Date	Prior Month	30 Days	60 Days	90 Days	Balance



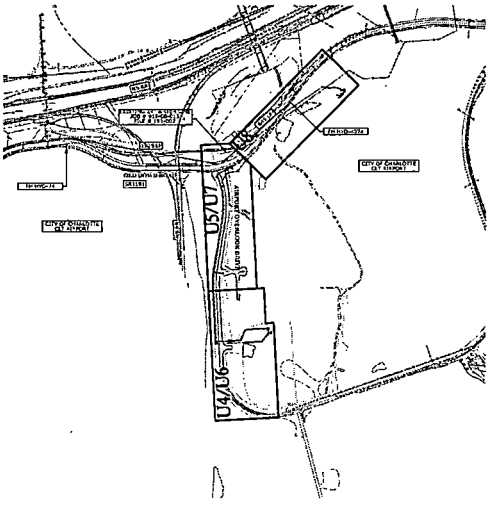
VICINITY MAP
NTS

CHARLOTTE DOUGLAS INTERNATIONAL AIRPORT

CHARLOTTE DOUGLAS INTERNATIONAL AIRPORT (CLT)
CLT NO. 4020901837-5
OVERLOOK
WATER AND SEWER FACILITIES
FOR PERMITTING

INDEX OF SHEETS

SHEET NO. U1	COVER SHEET
SHEET NO. U2	NOTES ABBREVIATIONS
SHEET NO. U3	8" WATER LINE PLAN AND PROFILE
SHEET NO. U4	8" WATER LINE PLAN AND PROFILE
SHEET NO. U5	6" SANITARY SEWER AND 2" FORCE MAIN PLAN AND PROFILE
SHEET NO. U6	2" FORCE MAIN PLAN AND PROFILE
SHEET NO. U7	2" FORCE MAIN PLAN AND PROFILE
SHEET NO. U8	DETAILS
SHEET NO. U9	DETAILS
SHEET NO. U10	DETAILS
SHEET NO. U11	DETAILS
SHEET NO. U12	DETAILS
SHEET NO. U13	DETAILS
SHEET NO. U14	DETAILS
SHEET NO. U15	DETAILS
SHEET NO. U16	DETAILS



LOCATION MAP
NTS

LEGEND

SYMBOLS

CURB, DITCH OR SHOULDER	
CURB & GUTTER	
EDGE OF PAVEMENT	
EXISTING FIRE HYDRANT	
EXIST. SAN. SEWER EASEMENT	SSE
EXISTING MANHOLE	
EXISTING WATER VALVE	
EXISTING WATER LINE	W
EXISTING SANITARY SEWER	S
EXIST. SAN. SEWER MANHOLE STRUCTURE	
EXISTING GAS LINE	G
EXISTING GAS METER	GS
FENCE (LABEL TYPE)	WOOD
GAS VALVE	
GRADE BREAK PROFILE	
GUARD RAIL	
WATER, POND, WETLAND OR LAKE	WA WE WL
OVERHEAD ELECTRIC	OE
POLES	
POWER POLE/UTILITY BOX	
PROPERTY LINE	
PROPOSED 8 SANITARY SEWER	S
PROP. SAN. SEWER MANHOLE STRUCTURE	
RIP — RAP	
ROAD/STREET/LANE TRANSMISSION R/W	
SILTSAVER FENCE (SILT FENCE) STD. 6.62	
SIDEWALK	
STREET SIGN (LABEL TYPE)	
STORM DRAIN/CATCH BASIN, YARD AND DROP INLET	
TEMPORARY CONSTRUCTION EASEMENT	
TEMPORARY DIVERSION STD. 6.70	
TEMPORARY STREAM CROSSING STD. 6.75	
TOP OF BANK (TOB)	
TREE LINE	OE
TREE & BUSH	
UNDERGROUND CABLE	UC
UNDERGROUND ELECTRIC	UE
UNDERGROUND TELEPHONE	UT UT
RAILROAD	
WATER METER	
TREE REMOVAL	
TREE PROTECTION	
BIKEWAY/UTILITY EASEMENT	PUE
BIKEWAY/UTILITY/RETAINING WALL EASEMENT	SUPPE
STORM DRAINAGE EASEMENT	SDE
POST CONSTRUCTION CONTROLS EASEMENT	PCSE
SANITARY SEWER EASEMENT	SSE
CONSTRUCTION ACCESS EASEMENT	CE
PROP. OVERHEAD UTILITY	OU
PROP. UNDERGROUND UTILITY	UU

MAIN OR FACILITY: CITY OF CHARLOTTE
NCDOT ENCROACHMENT NO.: N/A
CDOT PERMIT NO.: N/A
NCDEQ PERMIT NO.: N/A

ENCROACHMENT AND PERMIT SUMMARY

PETROLEUM

NAME OF ENTITY	PERMITS REQUIRED	FEES REQUIRED	DATE PERMIT OBTAINED	DATE FEES WERE PAID
COLONIAL PIPELINE	N/A	—	—	—
PIEDMONT NATURAL GAS	N/A	—	—	—
PLANTATION PIPELINE	N/A	—	—	—

ROADS

NAME OF ENTITY	PERMITS REQUIRED	FEES REQUIRED	DATE PERMIT OBTAINED	DATE FEES WERE PAID
CDOT	N/A	—	—	—
NCDOT	N/A	—	—	—
TOWN OF CORNELIUS	N/A	—	—	—
TOWN OF DAVIDSON	N/A	—	—	—
TOWN OF MATTHEWS	N/A	—	—	—
TOWN OF MINT HILL	N/A	—	—	—
TOWN OF PINEVILLE	N/A	—	—	—

RAILROADS

NAME OF ENTITY	PERMITS REQUIRED	FEES REQUIRED	DATE PERMIT OBTAINED	DATE FEES WERE PAID
CSX	N/A	—	—	—
NORFOLK SOUTHERN	N/A	—	—	—

STV Engineers, Inc
900 West Trade St., Suite 715
Charlotte, NC 28202
NC License Number F-0991

DESIGN COMPANY:
PLANS PREPARED BY: STV ENGINEERS, INC.
ADDRESS: 900 WEST TRADE ST., SUITE 715, CHARLOTTE, NC 28202
PHONE: (704) 372-1885
DATE DESIGN COMPLETED: - 5/29/2020

SURVEY COMPANY:
SURVEYED BY: A.G. ZOUTWELLE SURVEYORS
ADDRESS: 1418 E FIFTH STREET CHARLOTTE, NC 28204
PHONE: 704-372-5444
DATE SURVEY COMPLETED: 2022

DEVELOPER: CHARLOTTE DOUGLAS INTERNATIONAL AIRPORT
ADDRESS: 5601 WILKINSON BLVD, CHARLOTTE, NC 28208
NAME: JAMES WALLEY, PE
PHONE: 980-307-2335
EMAIL: JAMES.WALLEY@CLTAIRPORT.COM

CONTRACTOR: -

INSPECTOR: -
INSIDE CHARLOTTE: (X) YES ( ) NO:
TOPO NO: 140,97

PLAN REVIEWER:

COMPLEX PROJECT: (X) YES ( ) NO

GRAPHIC SCALES
20 10 0 20 40
(HORIZONTAL)
2 1 0 2 4
(VERTICAL)

CALL 811 BEFORE DIGGING YOU DIG STOP 1-800-632-4949 NC811.ORG

FOR PERMITTING

APPROVAL SEAL

NORTH CAROLINA REGISTERED PROFESSIONAL ENGINEER SEAL 032021

N.C.P.E.

SUMMARY OF WATER MAINS

SIZE	LENGTH	SIZE	LENGTH
8"	1555 LF		
	-		
TOTAL NO. LOTS SEAVED: 1			

PROJECT NAME: CHARLOTTE DOUGLAS INTERNATIONAL AIRPORT OVERLOOK WATER AND SEWER FACILITIES
JOB NO: 4020901837-5
DATE OF ACTIVATION:
DATE AS BUILT: BY:

11/21/2022 12:21:08 PM 4020687_SHEET_U1_TSH.dgn

A CITY OF CHARLOTTE DEPARTMENT

ABBREVIATIONS

SYMBOLS

%	PERCENT
&	AND
@	AT

A

ABAN	ABANDON(ED)
ADD	ADDENDUM
APPROX	APPROXIMATE
ARV	AIR RELEASE VALVE
ASPH	ASPHALT

B

BFV	BUTTERFLY VALVE
BLDG	BUILDING
BLVD	BOULEVARD

C

CB	CATCH BASIN
CDOT	CHARLOTTE DEPARTMENT OF TRANSPORTATION
CL	CENTERLINE
CLF	CHAIN LINK FENCE
CMP	CORRUGATED METAL PIPE
CO	CLEANOUT
CONC	CONCRETE

D

DI	DUCTILE IRON
DI OR I	DIAMETER
DIV	DIVERSION
DIP	DUCTILE IRON PIPE
DWG	DRAWING
DUE	DRAINAGE UTILITY EASEMENT

E

EIP	EXISTING IRON PIN
ELEV OR EL	ELEVATION
EMH	EXISTING MANHOLE
ESMT	EASEMENT
EXIST	EXISTING

F

FES	FLARED END SECTION
FH	FIRE HYDRANT
FM	FORCE MAIN
FO	FIBER OPTIC CABLE
FRPM	FIBERGLASS REINFORCED POLYMER MORTAR

G

G	GAS
GR	GRADE
GRP	GLASS FIBER REINFORCED PLASTIC
GV	GATE VALVE OR GAS VALVE

H

HORIZ	HORIZONTAL
HW	HEADWALL
HWY	HIGHWAY
HYD	HYDRANT

I

IN	INCHES
INV	INVERT

J

JT	JOINT

L

LF	LINEAR FOOT
LOC	LIMITS OF CONSTRUCTION
LP	LIGHT POLE

M

MAX	MAXIMUM
MB	MAILBOX
MECH	MECHANICAL
MIC	MICROBIOLOGICALLY INFLUENCED CORROSION
MIN	MINIMUM
MISC	MISCELLANEOUS
MJ	MECHANICAL JOINT
MON	MONUMENT

N

N	NORTH
NCDEQ	NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY
NCDOT	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
NO OR #	NUMBER
N-S	NORFOLK-SOUTHERN
NTS	NOT TO SCALE

O

OHE OR OE	OVERHEAD ELECTRIC
OHT	OVERHEAD TELEPHONE
OHTV	OVERHEAD CABLE TV

P

PED	PEDESTAL
PK	PARK
PKWY	PARKWAY
PL	PROPERTY LINE
PNG	PIEDMONT NATURAL GAS
PP	POWER POLE
PUE	PERMANENT UTILITY EASEMENT
PV	PLUG VALVE
PVMT	PAVEMENT
PWR	PARTIALLY WEATHERED ROCK
PDE	DRAINAGE EASEMENT

R

R/W OR RW	RIGHT OF WAY
R	RADIUS
RCP	REINFORCED CONCRETE PIPE
RD	ROAD
RJ	RESTRAINED JOINT
RR	RAILROAD

S

SD	STORM DRAIN
SF	SILT FENCE
SHT	SHEET
SSMH	SANITARY SEWER MANHOLE
SS	SANITARY SEWER
STA	STATION
STD	STANDARD
SWR	SEWER
SLE	SLOPE EASEMENT

T

TBM	TEMPORARY BENCH MARK
TCE	TEMPORARY CONSTRUCTION EASEMENT
TD	TEMPORARY DIVERSION
TEL	TELEPHONE
TEMP	TEMPORARY
TYP	TYPICAL

U

UG	UNDERGROUND
UE	UNDERGROUND ELECTRIC
UT	UNDERGROUND TELEPHONE
TV	UNDERGROUND CABLE TV

V

VERT	VERTICAL

W

W	WATER
WL	WATER LINE
WM	WATER METER
W/	WITH
W/O	WITHOUT
WV	WATER VALVE

CHARLOTTE WATER IDS GENERAL NOTES

1. NO PUBLIC WATER OR PUBLIC SANITARY SEWER MAIN CONSTRUCTION MAY TAKE PLACE ON THIS PROJECT UNTIL THE UTILITY CONTRACTOR HAS REQUESTED, SCHEDULED, AND ATTENDED A PRE-CONSTRUCTION CONFERENCE WITH THE CHARLOTTE WATER CONSTRUCTION INSPECTOR ASSIGNED TO THE PROJECT. ANY WORK PERFORMED PRIOR TO THE PRE-CONSTRUCTION CONFERENCE SHALL NOT BE ACCEPTED BY CHARLOTTE WATER AND SHALL BE REMOVED AND REPLACED WITH NEW MATERIALS.

2. APPROVAL FOR BACKFLOW PREVENTION REQUIREMENTS IS NOT PART OF THIS REVIEW. BACKFLOW PREVENTION REVIEW ENTAILS PLAN SUBMITTAL VIA MECKLENBURG COUNTY'S CODE ENFORCEMENT PERMITTING PROCESS AT THE TIME OF APPLICATION FOR BUILDING PERMITS. BACKFLOW PROGRAM REQUIREMENTS ARE AVAILABLE AT HTTPS://CHARLOTTENC.GOV/WATER/PAGES/BACKFLOWCONSTRUCTIONGUIDELINES.ASPX. PLEASE CONTACT MARK KROUSE AT 704-432-5800 FOR MORE INFORMATION.

3. ANY REVISION TO THE SERVICE CONFIGURATIONS AND/OR METER LOCATIONS WILL REQUIRE A RESUBMITTAL TO BACKFLOW FOR REVIEW.

4. CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH CHARLOTTE WATER STANDARDS AND SPECIFICATIONS FOR WEBSITE AT WWW.CHARLOTTEWATER.ORG

5. ALL CONTRACTORS WORKING ON CHARLOTTE WATER PROJECTS ARE REQUIRED TO OWN A COPY OF THE DESIGN MANUAL AND SHALL KEEP A COPY ON THE JOB SITE AT ALL TIMES.

6. CONTRACTOR IS FULLY RESPONSIBLE FOR CONTACTING ALL APPROPRIATE PARTIES AND ASSURING THAT UTILITIES ARE LOCATED PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. CALL NC811 AT 1-800-632-4949 OR 811 FOR UTILITY LOCATING SERVICES 72 HOURS PRIOR TO COMMENCEMENT OF ANY WORK. CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.

7. IF THE PROPOSED WATER AND/OR SANITARY SEWER MAIN IS INSTALLED WITHIN 12" IN ANY DIRECTION (VERTICALLY OR HORIZONTALLY) FROM NATURAL GAS MAINS, THE CONTRACTOR SHALL INFORM PIEDMONT NATURAL GAS COMPANY AT (704) 525-5555

8. SANITARY SEWER LATERAL LOCATIONS ARE APPROXIMATE AND ARE SUBJECT TO RELOCATION DUE TO FIELD CONDITIONS.

9. SANITARY SEWER LATERALS ARE TO BE INSTALLED AT A DEPTH NO GREATER THAN FIVE (5) FEET WHERE PRACTICAL AT THE PROPERTY LINE UNLESS INDICATED ON THE PLANS TO BE INSTALLED AT "MINIMUM SLOPE".

10. MINIMUM COVER OF 36" FOR WATER MAINS.

11. DUCTILE IRON PIPE (RED BRASS FOR 2" WATER PIPE) REQUIRED FOR BOTH WATER & SANITARY SEWER LINES IF THE FOLLOWING CLEARANCES ARE NOT MET:
   - WATER LINE CROSSING UNDER SEWER LINE (FOR ANY CLEARANCE).
   - 18" VERTICAL FOR WATER LINE INSTALLED ABOVE SEWER LINE.
   - 10' HORIZONTAL SEPARATION FOR WATER LINE PARALLEL TO SEWER LINE (OR 18" VERTICAL SEPARATION IN SEPARATE DITCHES).
   - FOR WATER LINES 12" CLEARANCE WITH STORM DRAINS, GAS MAINS, TELEPHONE DUCTS, AND UNDERGROUND CABLES.

12. RECORDED PLATS ARE REQUIRED FOR ACTIVATION OF WATER MAINS. EASEMENTS ARE NOT ACCEPTABLE.

13. ALL WATER MAINS AND SERVICES SHALL BE INSTALLED WITH SOLID COPPER 12-GAUGE TRACER WIRE, 30 MILS BLUE HDPE INSULATION. CONDUCTIVITY TEST REQUIRED DURING FINAL INSPECTION. CONTRACTOR SHALL PROVIDE ALL TEST EQUIPMENT.

14. ALL SEWER MAINS AND SERVICES SHALL BE INSTALLED WITH SOLID COPPER 12-GAUGE TRACER WIRE, 30 MILS BLUE HDPE INSULATION. CONDUCTIVITY TEST REQUIRED DURING FINAL INSPECTION. CONTRACTOR SHALL PROVIDE ALL TEST EQUIPMENT.

15. COMPLETE TRENCH BACKFILL SHALL BE IN PLACE 30 CALENDAR DAYS PRIOR TO SCHEDULING PVC PIPE MANDREL TESTING.

16. CURB AND GUTTER SHALL BE CONSTRUCTED PRIOR TO WATER MAIN INSTALLATION.

17. SEPARATE PLAN SUBMITTAL REQUIRED TO BACKFLOW PROTECTION FOR REVIEW/APPROVAL PERTAINING TO ANY APPLICABLE BACKFLOW DEVICES.

18. WATER MAIN EXTENSIONS INCLUDE SERVICES SHALL INCLUDE AIR RELEASE AT ALL HIGH POINTS IN WATER MAINS OR EVERY 1000 LF.

19. EXISTING MANHOLES MAY HAVE TO BE REPAIRED OR REPLACED, DEPENDING ON THE CONDITION, AS DETERMINED BY THE CHARLOTTE WATER INSPECTOR.

20. ALL VALVE ASSEMBLIES SHALL BE COMPLETELY OUTSIDE OF ADA HANDICAP RAMPS. FIRE HYDRANTS SHALL BE COMPLETELY OUTSIDE SIDEWALKS AND RAMPS.

21. MCT 15' WATER MAIN EASEMENT REQUIRED UNLESS APPROVED BY ENGINEER.

22. ANY NEW METERS OR IRRIGATION METERS INSTALLED/RELOCATED AFTER THE BACTERIAL AND PRESSURE TEST SHALL REQUIRE ADDITIONAL BACTERIAL TEST. A CLTWATER INSPECTOR SHALL WITNESS THE TAP UNDERVEID UNDER STATIC CONDITIONS TO VERIFY IF LEAKS ARE PRESENT.

23. ALL PROPOSED WATER METERS SHALL NOT BE INSTALLED IN DRIVEWAYS OR IN ADA RAMPS.

CDOT R/W USE PERMIT

THE CONTRACTOR/DEVELOPER SHALL OBTAIN ALL NECESSARY PERMITS FOR CONSTRUCTION WITHIN CITY OF CHARLOTTE-MAINTAINED STREET RIGHTS-OF-WAY (R/W), PRIOR TO CONSTRUCTION. A CONTRACTOR'S EMPLOYEE SHALL HOLD A VALID EXCAVATION CERTIFICATION FROM CDOT'S STREET MAINTENANCE DIVISION (SMD) AND SHALL BE ON SITE DURING WORK IN THE STREETS PAVEMENT, INCLUDING MEDIAN AND DRIVEWAYS. CONTACT SMD AT (704) 336-3700 TO ENROLL IN THE NEXT CERTIFICATION CLASS.

THE PERMIT SHALL BE OBTAINED BY CALLING CDOT AT (704) 432-ROWI (704-432-7694) OR COMPLETING AN APPLICATION SPREADSHEET BY E-MAIL TO ROWUSE@CI.CHARLOTTE.NC.US. THE APPLICATION CAN BE FOUND ONLINE AT HTTP://WWW.CHARMECK.ORG/DEPARTMENTS/TRANSPORTATION/ROWHTM.

THE CONTRACTOR SHALL CALL (704) 432-ROWI AT LEAST 72 HOURS PRIOR TO COMMENCING WORK AUTHORIZED BY THE PERMIT. BY CITY ORDINANCE, ALL WORK IN THE R/W SHALL BE PERFORMED ACCORDING TO THE WORK AREA TRAFFIC CONTROL HANDBOOK (WATCH) AND HAVE A VALID PERMIT.

PROVIDE A COPY OF PERMIT TO CHARLOTTE WATER CHIEF INSPECTOR PRIOR TO SCHEDULING WORK.

APPLICATION FOR PERMIT FOR WATER MAIN EXTENSION

PROJECT NAME: AIRPORT OVERLOOK DRIVE AND AIRPORT OVER-LOOK SITE
CHARLOTTE DOUGLAS INTERNATIONAL AIRPORT (CLT)

CLTWater PROJECT NO.: 4020901837-5

PROJECT DESCRIPTION: APPROX. 1655 LF 8" WATER MAIN
FIRE HYDRANTS
4 I/W DOMESTIC, IRRIGATION AND BFP SERVICE METERS AND BACKFLOWS

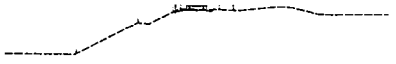
DESIGNED BY: FIRM: STV ENGINEERS, INC.
ENGINEER: ANDREW S. VANE, PE
ADDRESS: 900 WEST TRADE STREET, SUITE 715
CHARLOTTE, NORTH CAROLINA 28202-1144
PHONE: (704) 372-1885

THIS APPLICATION IS MADE UNDER AND IN FULL ACCORD WITH THE PROVISIONS OF CHAPTER 130A-317 OF THE NORTH CAROLINA GENERAL STATUTES, AND SUCH OTHER STATUTES AS RELATED TO PUBLIC WATER SYSTEMS. CLTWater HAS BEEN GRANTED AUTHORITY TO ISSUE PERMITS FOR EXTENSION OF WATER MAINS PURSUANT TO 15A NCAC 18C.1801. THE APPLICANT AGREES THAT NO SIGNIFICANT CHANGE OR DEVIATION FROM THE PLANS AND SPECIFICATIONS APPROVED BY CLTWater WILL BE MADE WITHOUT THE WRITTEN CONSENT AND APPROVAL OF CLTWater OR ITS AUTHORIZED REPRESENTATIVE. A PROFESSIONAL ENGINEER LICENSED TO PRACTICE IN THE STATE OF NORTH CAROLINA SHALL SUBMIT A STATEMENT REFLECTING THAT ADEQUATE OBSERVATIONS DURING AND UPON COMPLETION OF CONSTRUCTION INDICATES THAT CONSTRUCTION WAS COMPLETED IN ACCORDANCE WITH APPROVED PLANS AND SPECIFICATIONS.

PERMIT NO. _____

APPROVED: _____ DATE _____

KERI CANTRELL, PE, PHD, CHIEF ENGINEER
CHARLOTTE WATER
5100 BROOKSHIRE BLVD.
CHARLOTTE, NORTH CAROLINA 28216



Overlook Restroom Facilities		(AWWA M-22)
Toilets (Flush valve)	5	
Urinals (flush valve)	1	
Sink (lavatory)	2	
Utility Sink	1	
Drinking Fountain	1	
Demand	62	gpm
Total Adj Demand	52.7	gpm
Velocity	9.6	fps

Domestic Water Demand Calculation Results:

	Demand Flow (gpm)	Corresponding Meter (CLT Water Meter Chart)	Proposed Meter
Meter - 1	62 gpm	1-1/2"	2"

Plans Prepared By:
STV 100 Years
STV Engineers, Inc.
900 West Trade St., Suite 715
Charlotte, NC 28202
NC License Number F-0991

11/21/2022

TALBERT, BRIGHT & ELLINGTON
ENGINEERING & PLANNING CONSULTANTS
3435 WHITEHALL PARK DRIVE, SUITE 210
CHARLOTTE, NORTH CAROLINA 28273
PHONE: 704-334-0570 FAX: 704-334-9580
NC LICENSE NO. C-1163

REVISIONS					
NO.	1	2	3	4	5
DATE					

DESIGNED BY: STV ENGINEERS
PROJECT ENG.:
PROJECT NO.: 4020901837-5
DRAWN BY: SHM
CHECKED BY: ASV
DATE ISSUED: 10/07/2022

CLT CHARLOTTE DOUGLAS INTERNATIONAL AIRPORT

AIRPORT OVERLOOK DRIVE
PERMIT, NOTES, AND ABBREVIATIONS

SCALE: 1"=0"
FILE NAME:

SHT. U-2

11/21/2022 12:21:19 PM NEAT_Overlook_UC_U2.dgn

November 22, 2022

Mecklenburg County Health Department
ATTN: Groundwater & Wastewater Services
Valerie C. Woodard Center
3205 Freedom Drive, Suite 8000
Charlotte, NC 28208

RE: CLT Airport Overlook
Septic Discharge Design and Permitting
STV Project No.: 4019901

To Whom It May Concern,

On behalf of Charlotte Douglas International Airport, were are submitting the following for approval to obtain a permit to discharge from Mecklenburg County Health Department for the above referenced project. The following are included in this email to you:

- Application for Commercial Site Improvement Permit signed
- Signed and Sealed Plan Sheets for Water/Sewer at Overlook Site
- Geotech Septic Report
- Survey of Septic Field
- Survey of final layout of septic lines
- Hydraulic Calculations Backup Info

This project is being permitted through Accella for the building and other facilities including CLTWater Donated Projects for the water service. Please feel free to contact me at 704-816-2547 or andrew.vane@stvinc.com if you have any questions.

We look forward to hearing from you.

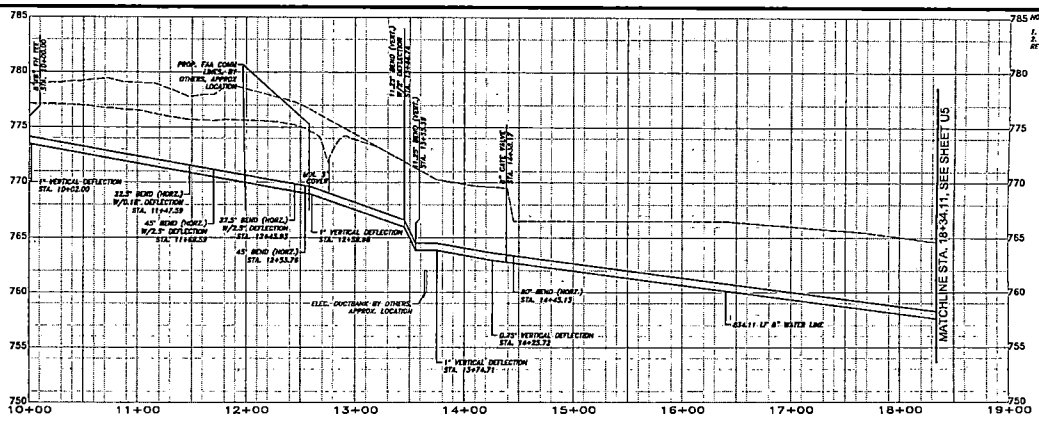
Sincerely,

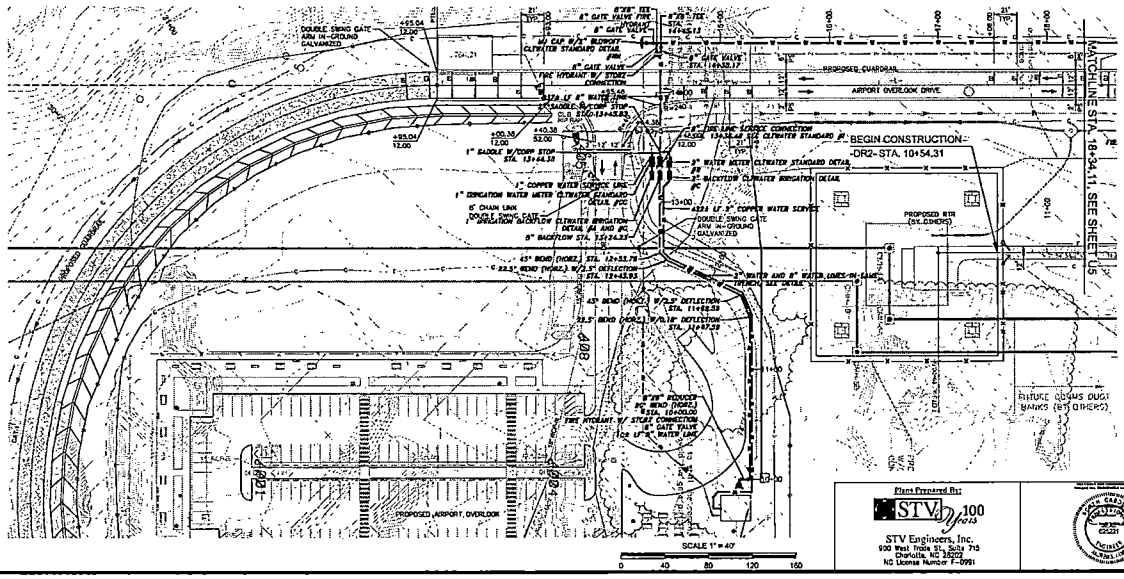
STV ENGINEERS, INC.

Andrew S Vane, PE
Sr Engineering Operations Manager

cc: James Wally, CLT Airport

900 WEST TRADE STREET, SUITE 715
PROVIDING QUALITY SERVICE SINCE 1912 | CHARLOTTE, NORTH CAROLINA 28202-1144
(704) 372-1885 FAX: (704) 372-3393





NAD 83

Plans Prepared By:
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900 West Trade St., Suite 715
Charlotte, NC 28202
NC License Number F-0991

TALBERT, BRIGHT & ELLINGTON
ENGINEERING & PLANNING CONSULTANTS
1624 WESTHALL PARK DRIVE, SUITE 310
CHARLOTTE, NORTH CAROLINA 28273
PHONE: 704-626-0030 FAX: 704-626-0060
NC LICENSE NO. C-1163

REVISIONS					
	1	2	3	4	5
DATE					

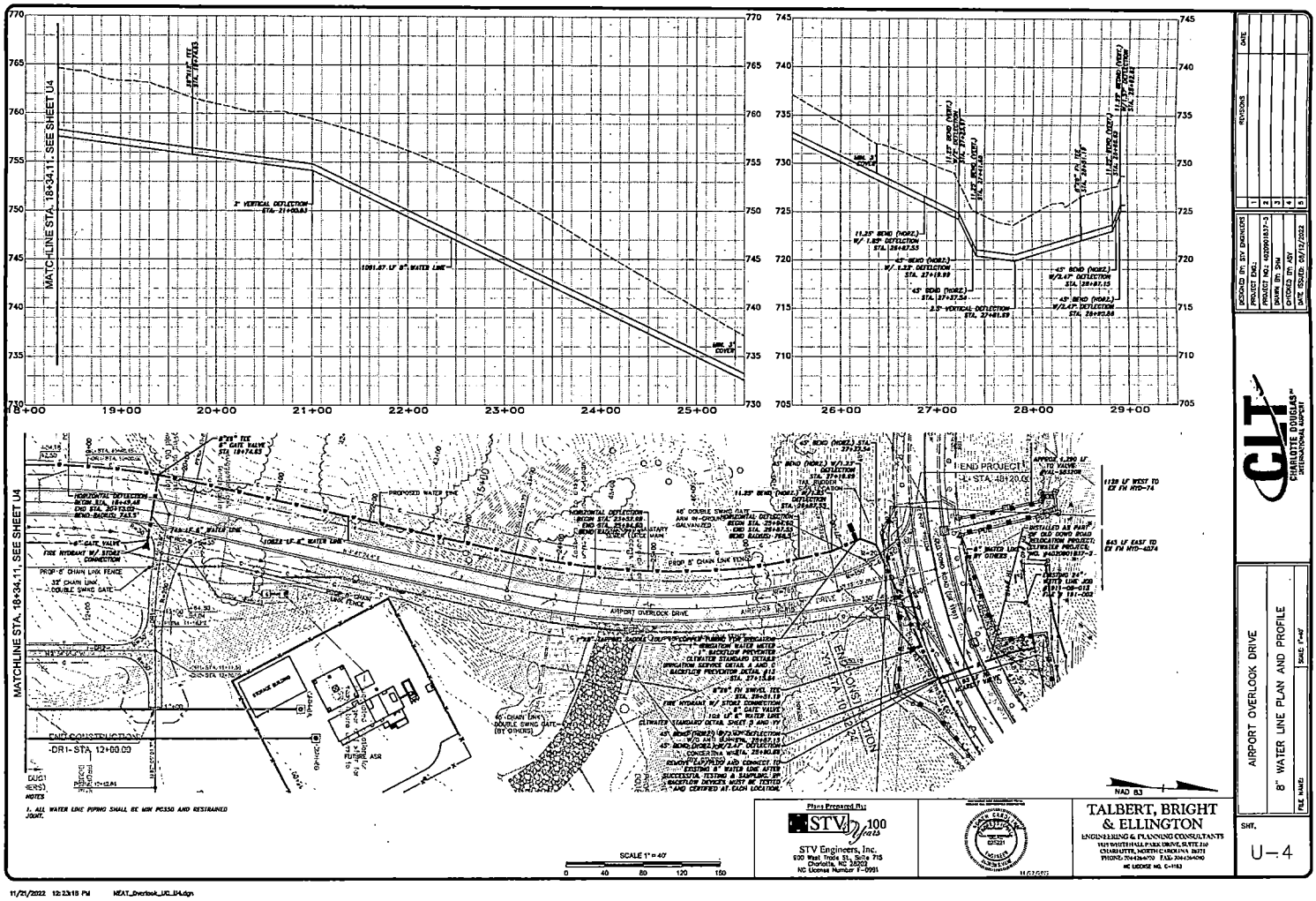
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PROJECT MGR.: 4075010537-5
DRAWN BY: SW
CHECKED BY: ASV
DATE ISSUED: 09/12/2022

CLT
CHARLOTTE DOUGLAS INTERNATIONAL AIRPORT

AIRPORT OVERLOOK DRIVE
8" WATER LINE PLAN AND PROFILE
FILE NAME:
SCALE: 1"=40'

SHT.
U-3

11/21/2022 12:23:06 PM NEAT_Overlook_WC_U3.dgn



NOTES

1. ALL WATER LINE PIPING SHALL BE MIN PC350 AND RESTRAINED JOINT.

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Charlotte, NC 28202
NC License Number F-0991

TALBERT, BRIGHT & ELLINGTON
ENGINEERING & PLANNING CONSULTANTS
1626 SMITH HALL PARK DRIVE, SUITE 210
CHARLOTTE, NORTH CAROLINA 28273
PHONE: 704-334-0700 FAX: 704-334-0780
NC LICENSE NO. C-1183

REVISIONS

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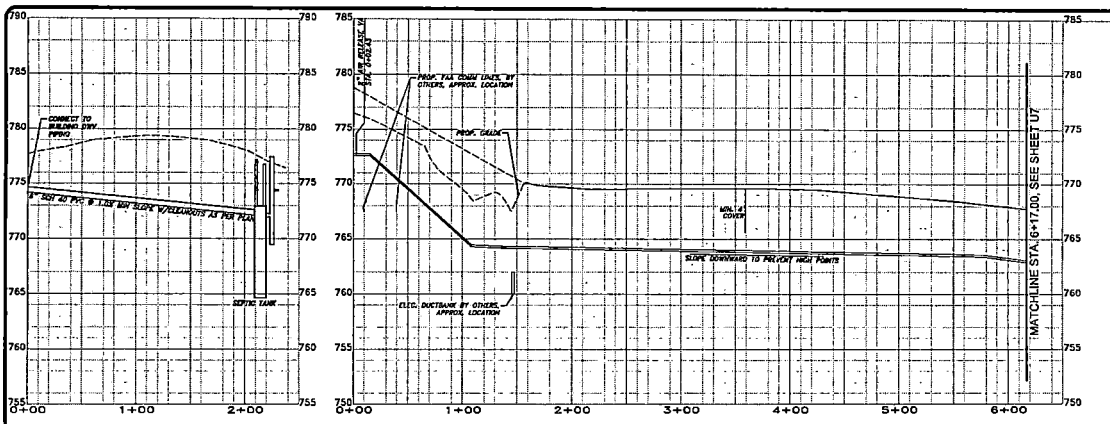
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CHECKED BY: ADV
DATE ISSUED: 09/12/2022

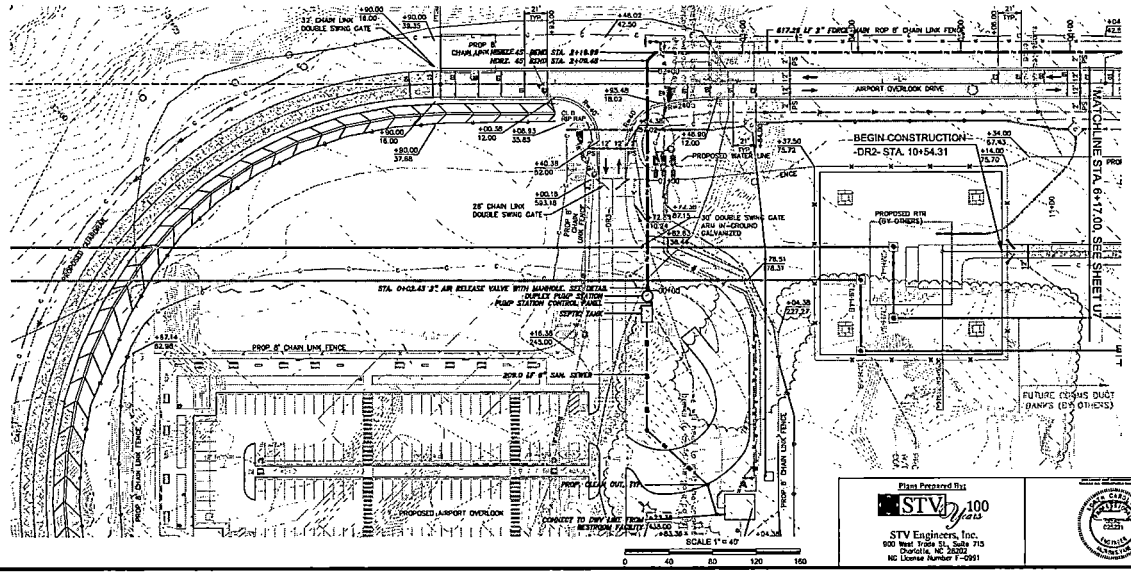
CLT
CHARLOTTE DOUGLAS INTERNATIONAL AIRPORT

AIRPORT OVERLOOK DRIVE
8" WATER LINE PLAN AND PROFILE
SCALE: 1"=40'
FILE NAME:

SHT. U-4

11/21/2022 12:23:18 PM MEAT_Overlook_UC_04.dgn





NAD 83

Plans Prepared By:

STV Engineers, Inc.
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ENGINEERING & PLANNING CONSULTANTS
909 WHITEHALL PARK DRIVE, SUITE 310
CHARLOTTE, NORTH CAROLINA 28273
PHONE: 704-630-0670 FAX: 704-525-4060
NC LICENSE NO. C-1183

11/23/2022

CLT
CHARLOTTE DOUGLAS INTERNATIONAL AIRPORT

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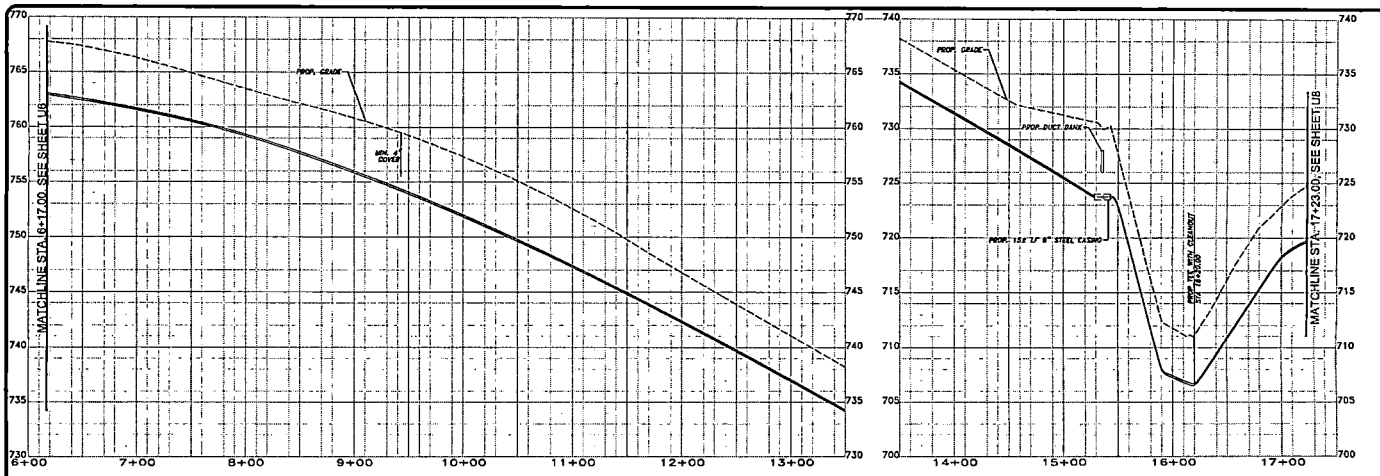
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PROJECT ENG.:
PROJECT NO.: 4020001837-3
DRAWN BY: SSM
CHECKED BY: ASV
DATE ISSUED: 09/12/2022

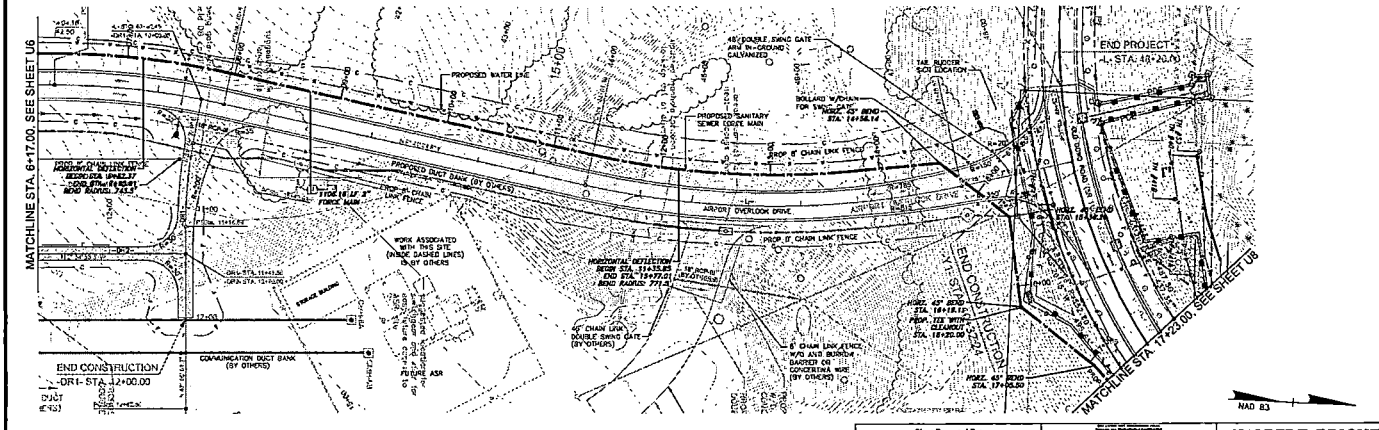
AIRPORT OVERLOOK DRIVE
6" SANITARY SEWER AND 4" FORCE MAIN
PLAN AND PROFILE

SCALE: 1"=40'

FILE NAME:

SHT.
U-5





SCALE 1" = 40'
0 40 80 120 160

Plans Prepared By:
STV Engineers, Inc.
900 West Trade St., Suite 715
Charlotte, NC 28202
NC License Number F-0991

TALBERT, BRIGHT & ELLINGTON
ENGINEERING & PLANNING CONSULTANTS
1519 WESTHALL PARK DRIVE, SUITE 210
CHARLOTTE, NORTH CAROLINA 28273
PHONE: 704-504-0700 FAX: 704-504-0080
NC LICENSE NO. C-1163

REVISIONS	DATE
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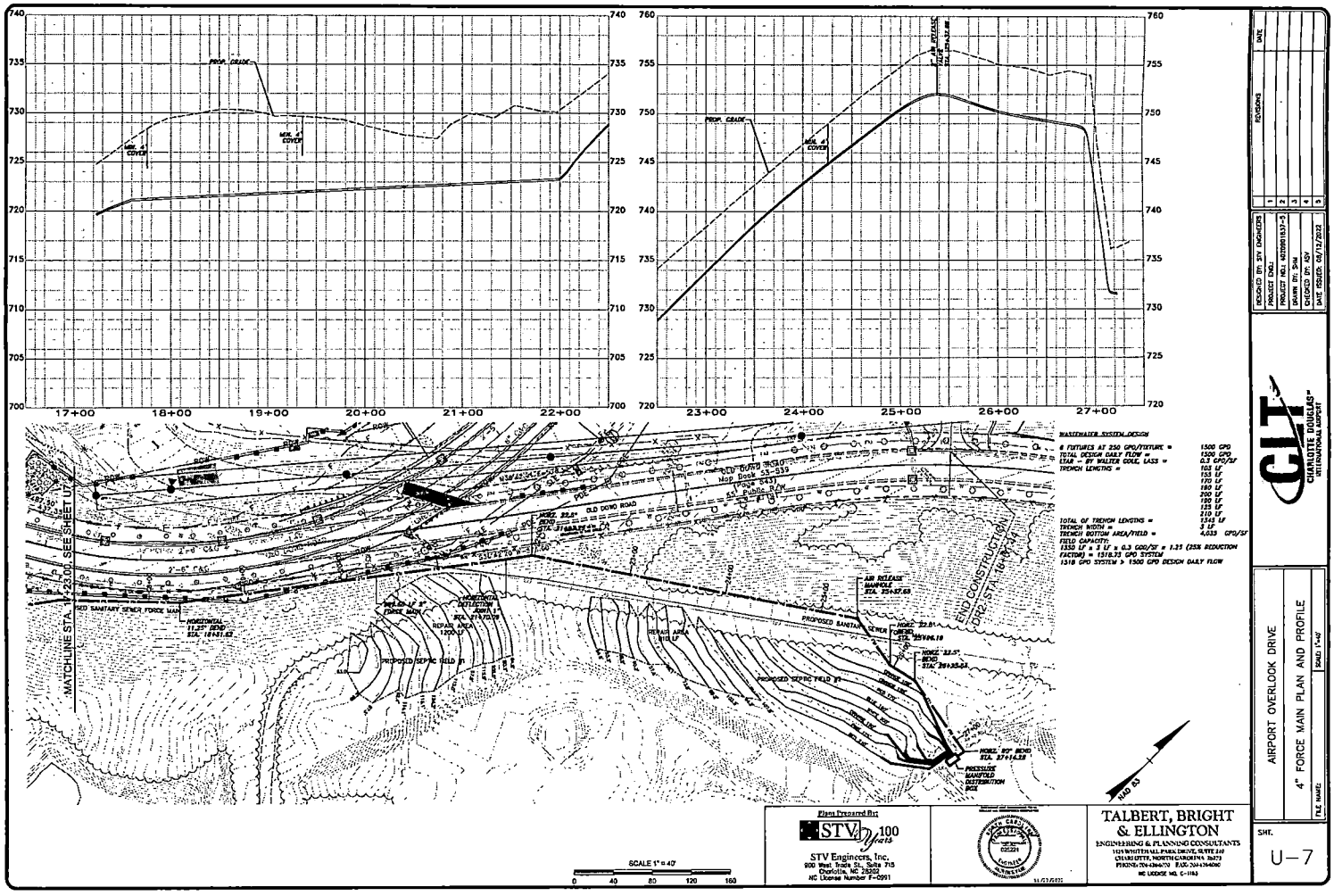
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PROJECT ENG.:
PROJECT NO.: 422091837-5
DRAWN BY: SHM
CHECKED BY: ADV
DATE ISSUED: 10/12/2023

CLT
CHARLOTTE DOUGLAS INTERNATIONAL AIRPORT

AIRPORT OVERLOOK DRIVE
4" FORCE MAIN PLAN AND PROFILE
SCALE: 1"=40'
FILE NAME:

SHT. U-6

11/21/2023 3:53:50 PM MEAT_Overlook_UC_U6.dgn



Plans Prepared By:

STV 100 years

STV Engineers, Inc.
900 West Trade St., Suite 715
Charlotte, NC 28202
NC License Number F-0991

TALBERT, BRIGHT & ELLINGTON

ENGINEERING & PLANNING CONSULTANTS
109 WHITEHALL PARK DRIVE, SUITE 310
CHARLOTTE, NORTH CAROLINA 28273
PHONE: 704-504-0703 FAX: 704-504-0090
NC LICENSE NO. C-1183

11/21/2022

CLT
CHARLOTTE DOUGLAS INTERNATIONAL AIRPORT

REVISIONS						
	1	2	3	4	5	DATE

DESIGNED BY: STV ENGINEERS
PROJECT ENG.:
PROJECT NO.: 4220001837-3
DRAWN BY: SAW
CHECKED BY: ASV
DATE ISSUED: 09/12/2022

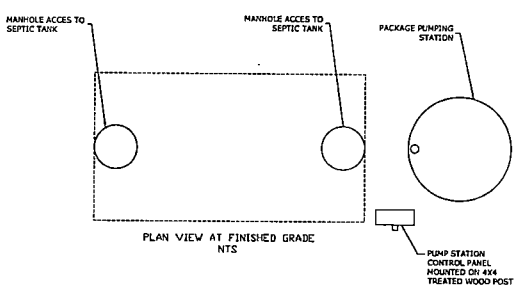
AIRPORT OVERLOOK DRIVE
4" FORCE MAIN PLAN AND PROFILE

FILE NAME:
SCALE: 1"=40'

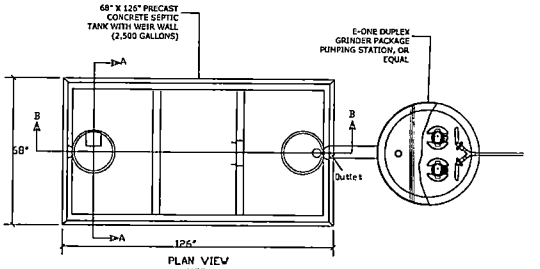
SHT.
U-7

MATCHLINE STA. 16+50.00, SEE SHEET U7

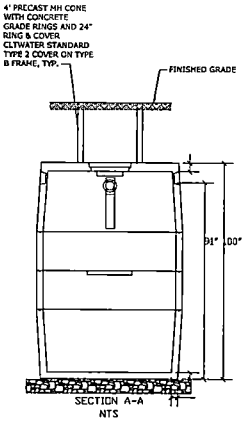
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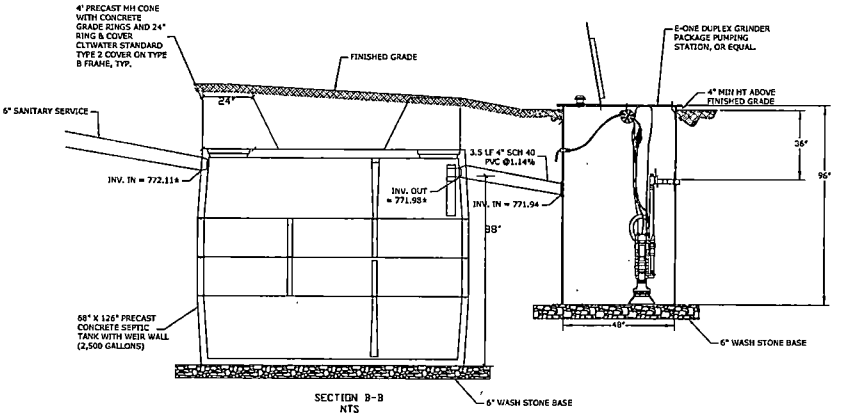
PLAN VIEW AT FINISHED GRADE
NTS



PLAN VIEW
NTS



SECTION A-A
NTS



SECTION B-B
NTS

Plans Prepared By:

STV 100 Years

STV Engineers, Inc.
900 West Trade St., Suite 715
Charlotte, NC 28202
NC License Number F-0991

11/22/2022

TALBERT, BRIGHT & ELLINGTON

ENGINEERING & PLANNING CONSULTANTS
1629 WHITEHALL PARK DRIVE, SUITE 310
CHARLOTTE, NORTH CAROLINA 28273
PHONE: 704-334-3563 FAX: 704-334-4080
NC LICENSE NO. C-1563

REVISIONS

NO.	DESCRIPTION	DATE
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2		
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5		

DESIGNED BY: BW DRAWN BY: SM CHECKED BY: ASV DATE ISSUED: 11/22/2022

PROJECT ENG.:
PROJECT NO.: 40300183T-5

CHARLOTTE DOUGLAS INTERNATIONAL AIRPORT

AIRPORT OVERLOOK DRIVE

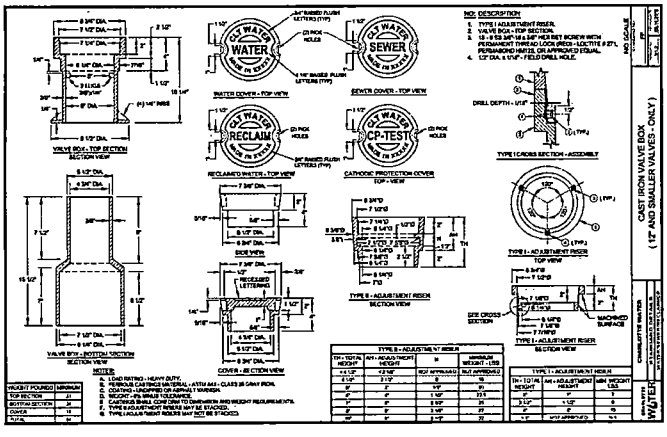
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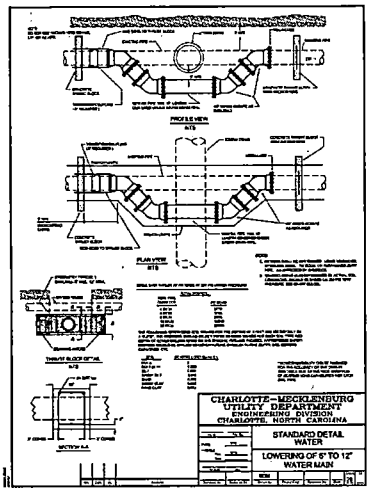
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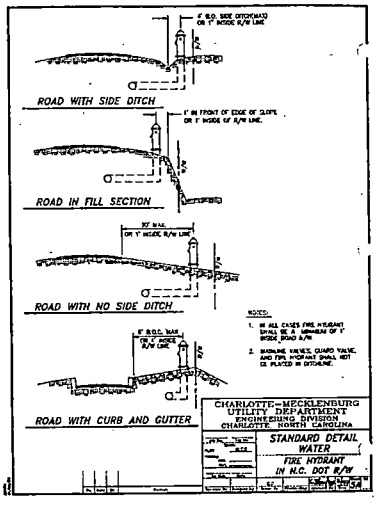
FILE NAME:

SHT. U-8

11/21/2022 STMES NEAT_Overlook_UG_U8.dgn







Plans Prepared By:
STV Engineers, Inc.
900 West Trade St., Suite 715
Charlotte, NC 28202
NC License Number F-0991

11/22/2022

TALBERT, BRIGHT & ELLINGTON
ENGINEERING & PLANNING CONSULTANTS
7435 WHITE OAK PARK DRIVE, SUITE 210
CHARLOTTE, NORTH CAROLINA 28273
PHONE: 704-588-0470 FAX: 704-523-4006
NC LICENSE NO. C-1183

DESIGNED BY: STV ENGINEERS
PROJECT ENG.:
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DRAWN BY: SM
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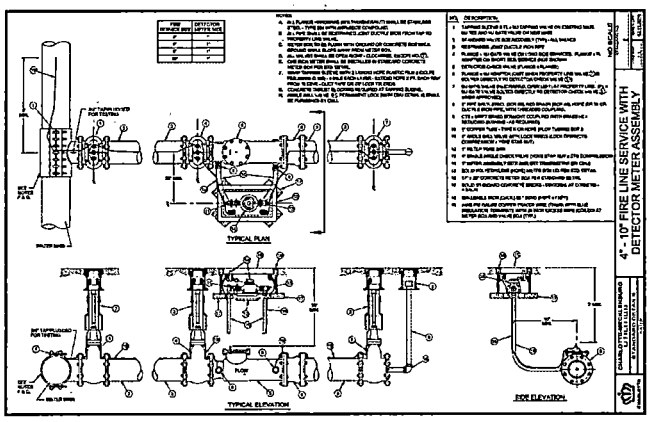
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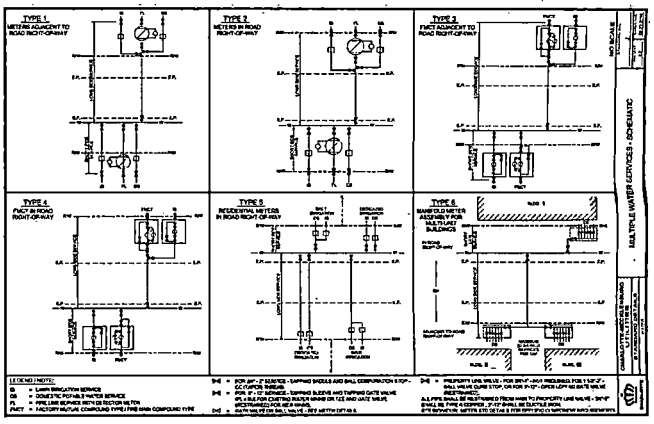
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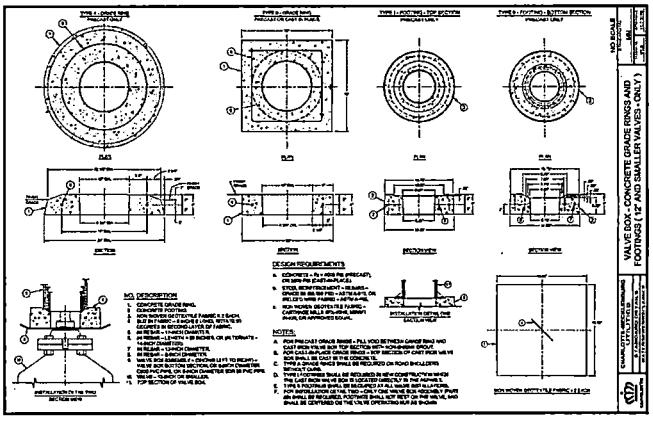
AIRPORT OVERLOOK DRIVE
DETAILS
SCALE: 1"=0"
FILE NAME:

SHT. U-9

11/21/2022 STM23 MEAT_Overlook_UIC_U9.dgn







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DESIGNED BY: STV ENGINEERS
PROJECT DALL: 40039018S7-A1
DRAWN BY: SM
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DATE ISSUED: 10/26/2022

CHARLOTTE DOUGLAS INTERNATIONAL AIRPORT

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DETAILS

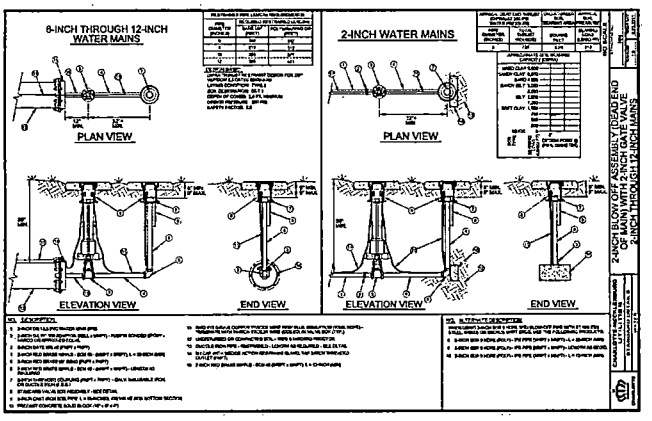
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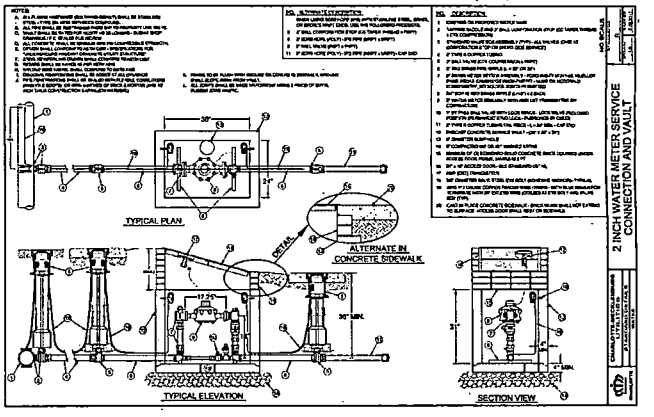
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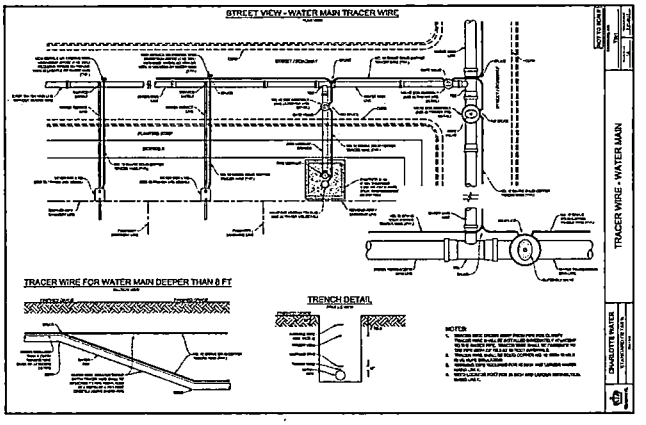
Plans Prepared By:
STV Engineers, Inc.
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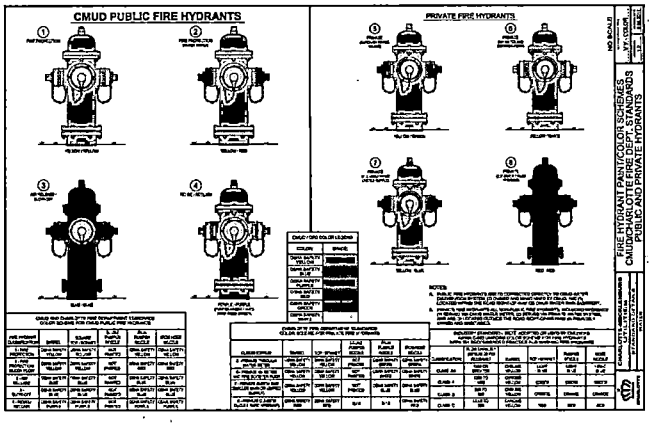
TALBERT, BRIGHT & ELLINGTON
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PROJECT NO.: 4020001537-3
DRAWN BY: SHJ
CHECKED BY: ASY
DATE ISSUED: 10/21/2022

REVISIONS

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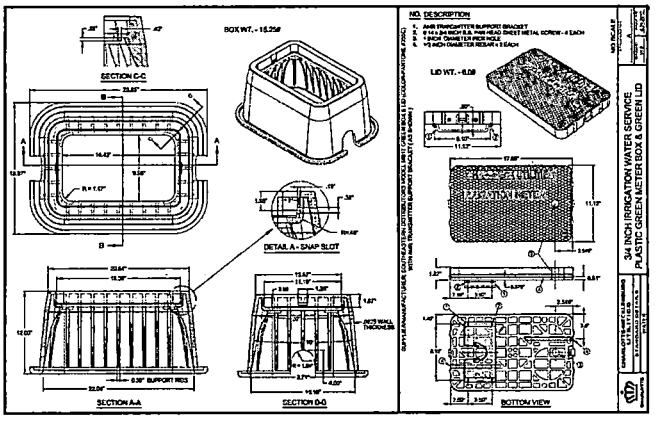
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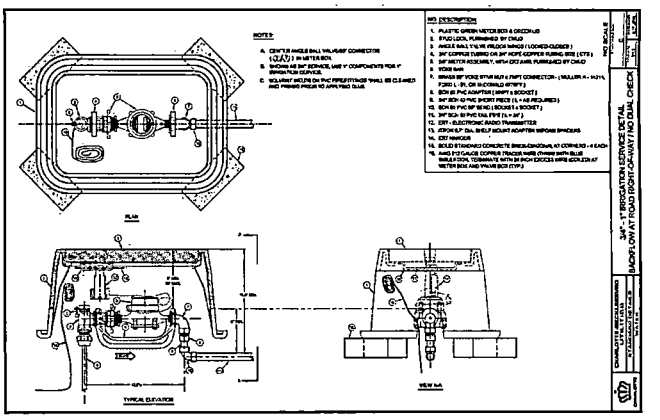
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DETAILS

SHT.
U-11

FILE NAME:

11/21/2022 STMES MEAT_Overlook_DC_U11.dgn





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DESIGNED BY: STV ENGINEERS
PROJECT MGR.: 4035041827-3
PROJECT NO.: 4035041827-3
DRAWN BY: MJW
CHECKED BY: MJW
DATE ISSUED: 10/02/2022

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AIRPORT OVERLOOK DRIVE

DETAILS

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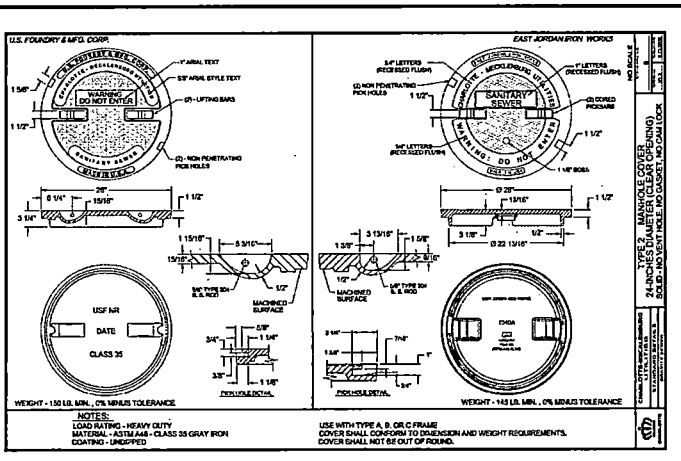
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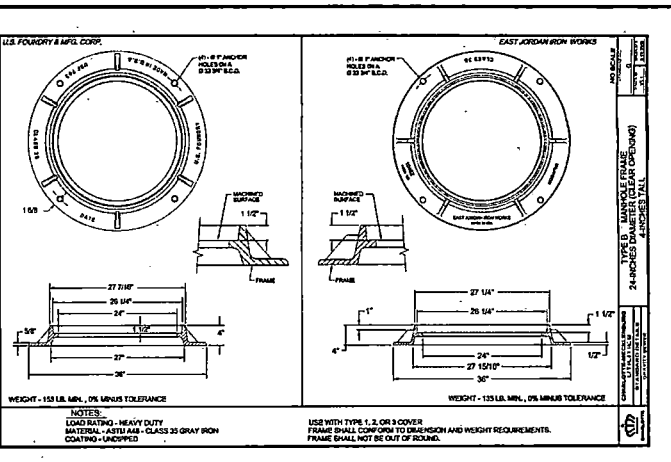
Plans Prepared By:
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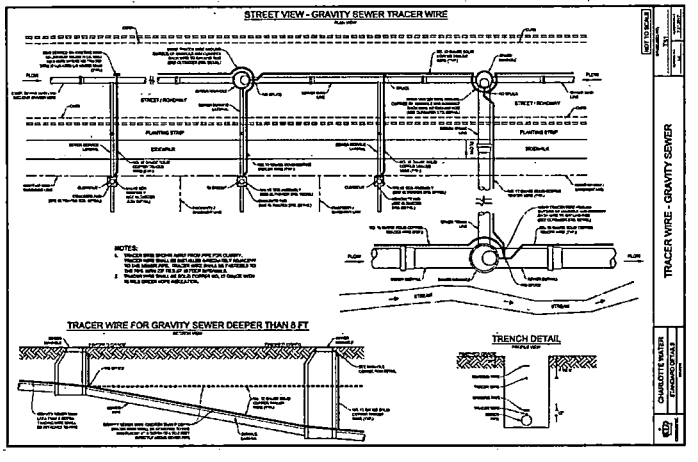
11/21/2022

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11/21/2022 STMES NEAT_Overlook_UG_U12.dgn







DATE	REVISIONS
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DESIGNED BY: STV ENGINEERS
PROJECT MGR.:
PROJECT NO.: 4053041.1831-3
DRAWN BY: STV
CHECKED BY: STV
DATE ISSUED: 10/25/2022

CLT CHARLOTTE DOUGLAS INTERNATIONAL AIRPORT

AIRPORT OVERLOOK DRIVE

DETAILS

P.E. NAME

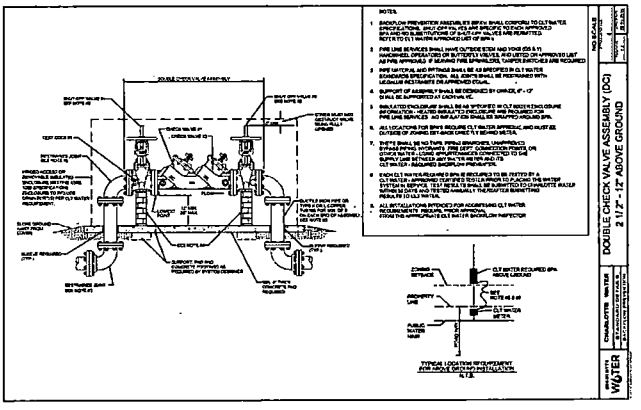
SHT. U–13

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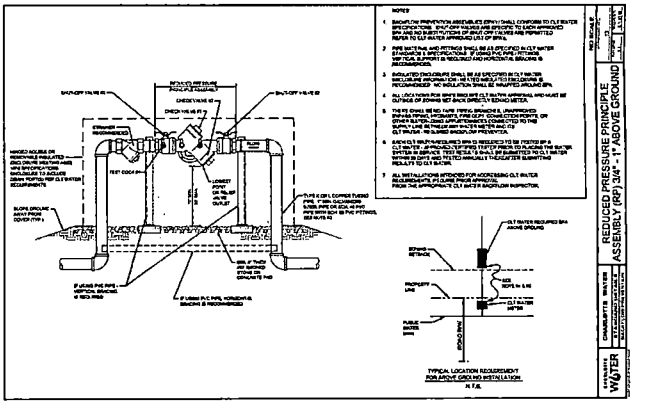
11/21/2022

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909 SOUTH ULMA PARK DRIVE, SUITE 310
CHARLOTTE, NORTH CAROLINA 28211
PHONE: 704-366-0720 FAX: 704-366-0360
NC LICENCE NO. C-1163

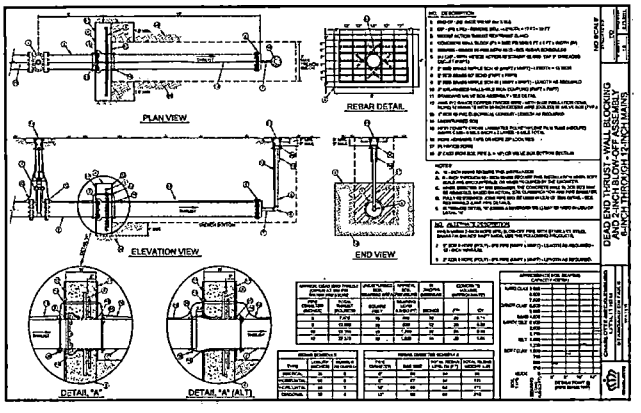
11/21/2022 STMES MEAT_Overlook_UG_U13.dgn



DOUBLE CHECK VALVE ASSEMBLY (DC)
2 1/2" - 12" ABOVE GROUND



REDUCED PRESSURE PRINCIPLE ASSEMBLY (RP) 3/4" - 1" ABOVE GROUND



DEAD END THRUST - WALL BLOCKING AND 2-INCH BLOW-OFF ASSEMBLY 8-INCH THROUGH 12-INCH MAINS

REVISIONS	DATE
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CHECKED BY: STV ENGINEERS
PROJECT LEAD:
PROJECT NO.: 4220901837-2
DRAWN BY: SW
CHECKED BY: ASY
DATE ISSUED: 10/12/2022

CLT
CHARLOTTE DOUGLAS INTERNATIONAL AIRPORT

AIRPORT OVERLOOK DRIVE

DETAILS

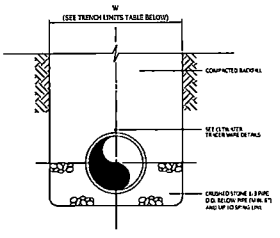
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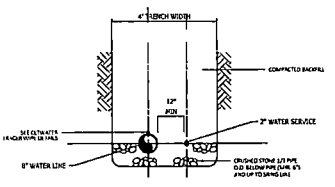
Plans Prepared by:
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STV Engineers, Inc.
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CHARLOTTE, NORTH CAROLINA 28273
PHONE: 704-588-0770 FAX: 704-334-0080
NC LICENCE NO. C-1483

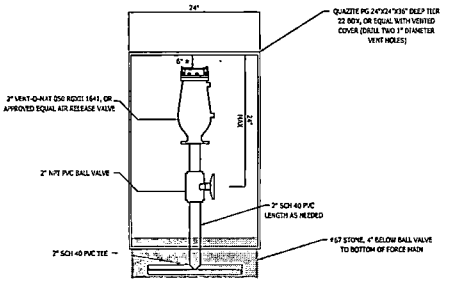
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TYPE 3 TRENCH



COMMON PIPES IN SAME CROSS SECTION



FORCE MAIN AIR RELEASE ASSEMBLY NOT TO SCALE

TRENCH EXCAVATION LIMITS		
INTERNAL DIAMETER OF PIPE	W WIDTH OF TRENCH MAX	W=MIN
4"-6"	3'-0"	2'-0"
8"-10"	3'-9"	2'-2"
12"	3'-9"	O.D.+2'
14"-16"	4'-2"	O.D.+2'
18"	4'-4"	O.D.+2'
20",21"	4'-8"	O.D.+2'
24"	4'-11"	O.D.+2'
27"	5'-9"	O.D.+2'
30"	6'-7"	O.D.+2'
36"	7'-4"	O.D.+2'
42"	8'-2"	O.D.+2'
48"	8'-9"	O.D.+2'
54"	9'-4"	O.D.+2'
60"	9'-10"	O.D.+2'
72"	11'-0"	O.D.+2'
78"	11'-8"	O.D.+2'
84"	12'-0"	O.D.+2'
90"	12'-6"	O.D.+2'
96"	13'-0"	O.D.+2'
108"	14'-0"	O.D.+2'
DEPTH OF CUT	S MAXIMUM PAVEMENT REPLACEMENT WIDTH	
0-6'	S=W+4'	
6-8'	S=W+8'	
8-10'	S=W+12'	
10-12'	S=W+16'	
12-14'	S=W+20'	
14-16'	S=W+24'	
16-18'	S=W+28'	
>18'	S=W+32'	
W = TRENCH WIDTH AT BOTTOM OF PIPE. TRENCH SIDE SLOPES SHALL BE IN ACCORDANCE WITH OSHA REQUIREMENTS.		

TRENCH LIMITS

DATE	REVISIONS
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DESIGNED BY: STV ENGINEERS
PROJECT ENG.:
PROJECT MGR.: 4320001637-3
DRAWN BY: SW
CHECKED BY: ASY
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CLT CHARLOTTE DOUGLAS INTERNATIONAL AIRPORT

AIRPORT OVERLOOK DRIVE

DETAILS

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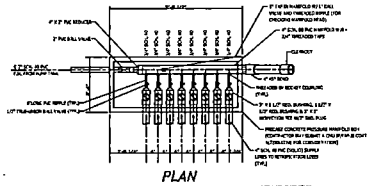
Plans Prepared By:
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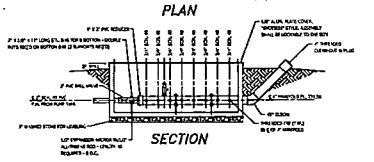
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1525 WESTERN BLVD. PARK DRIVE, SUITE 210
CHARLOTTE, NORTH CAROLINA 28273
PHONE: 704-588-0770 FAX: 704-676-0080
NC LICENSE NO. C-1483

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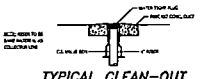


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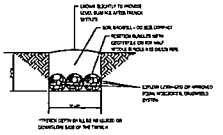


SECTION

PRESSURE MANIFOLD
SCALE: 1/4" = 1'-0"



TYPICAL CLEAN-OUT
IN GRASSED AREA
NOT TO SCALE



NITRIFICATION
TRENCH DETAIL
NOT TO SCALE

PRESSURE MANIFOLD

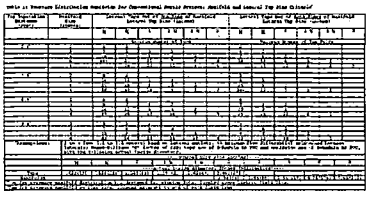
1. ALL PIPE AND FITTINGS SHALL BE SCH. 40 PVC.
PROVIDE FOR THREE PORTION OF RESTRAINT MANIFOLD
WHERE SHALL BE SCH. 40 PVC.
2. REDUCER BUSHINGS AND TRAILHEAD ADAPTERS AS
REQUIRED.
3. PROVIDE 6 x 4" LONG PIECE OF CLEAR PLASTIC
TUBING WITH PVC ADAPTERS TO FIT OUT IN THE
TOP OF THE MANIFOLD TO ALLOW PERIODIC HEAD
MEASUREMENT. SECURE THE TUBING AS THE 4 MANIFOLD BOX.
4. PROVIDE MIN. 12" COVER ON SUPPLY LINES AT
GRADE.

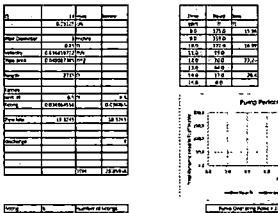
PRESSURE MANIFOLD DESIGN STEPS

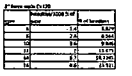
1. SELECT DRAWN FOR CONSTRUCTION OR DETERMINE THE REQUIRED FIELD SIZE, NUMBER OF LATERALS TO BE CLOSED FOR EACH PRESSURE MANIFOLD, AND DESIGNED LATERAL AND TAP SPACING.
REQ'D FIELD SIZE:
2000 GPD/0.5 GPD/SF = 4000 SF
4000 SF/ 75 FEET(N SOUTH) = 53.33 FT OF LINE
SAY 54 FT
53.33 ft (5.33% REDUCTION) = 1230 FT
1230 FT/ 54 FT/LATERAL = 22.78 PLUS
NUMBER OF LATERALS
23
EXPLAIN LAYOUT, IF SPACING MAXIMUM OR CENTER
SPLANATION FOR SPACING 6"

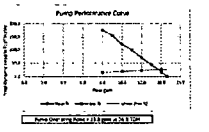
2. CHOOSE ORIFICE SIZE FOR PUMP MODEL AND TYPE, FROM THE VARIOUS PREPARED TAP SIZE CHARTS. SELECT ORIFICE SIZE AND DIAMETER OF 4 TO 6 EQUALLY SIZED PLANS, USE THE ORIFICE EQUATION TO CONVERT REQUIRED FLOW PER TAP, FOLLOWING AT 12 GPM TOTAL OF PRESSURE HEAD TO EACH LATERAL DRAWING.
PRESSURE TAP SIZE
ORIFICE EQUATION: Q = 12.1 d2 h0.5
WHERE Q = FLOW FROM ORIFICE, IN GALLONS PER MINUTE
D = DIAMETER OF ORIFICE, INCHES
H = PRESSURE HEAD, FEET
Q = 12.1(.1875)^2
Q = 4.29 GPM

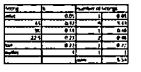
3. SELECT AUTO FLUSH VALVE FROM THE DESIGNED LATERAL THAT SIZE AND OPTIONAL SELECT FROM TABLE 2 THE MINIMUM SIZE OF MANIFOLD PIPE WHICH WILL LEAD THE DESIGNED NUMBER OF LATERALS AS SHOWN ON THE SMALL STAKING METHOD PIPE SIZE PERMITTED ALONG MEETING LINES.











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11/22/2022

DATE

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DESIGNED BY: STV ENGINEERS
PROJECT (VAL): 40230001837-3
DRAWN BY: EHM
CHECKED BY: JAY
DATE ISSUED: 10/20/2022

CLT
CHARLOTTE DOUGLAS INTERNATIONAL AIRPORT

AIRPORT OVERLOOK DRIVE

DETAILS

FILE NAME

SHT.
U-16

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PRESSURE MANIFOLD DESIGN FOR GROUND ABSORPTION SEWAGE SYSTEMS

Steven J. Berkowitz
February, 1986

Large subsurface wastewater systems are being used more frequently as alternatives to discharging systems for may public and private facilities.

Dosing effluent periodically and uniformly throughout the drain field improves absorption field performance and increases field longevity (Otis et al. 1977, Harget et al. 1982). Low-pressure distribution of effluent in small diameter, perforated laterals has become a popular design alternative for achieving uniform distribution. Over 2,000 low-pressure pipe systems are now in use at single-family homes in North Carolina. A comprehensive design and installation manual for residential low-pressure pipe systems is available (Cogger et al. 1982). Design criteria and a simplified design procedure have also been published (Otis 1982). Available information, however, does not adequately address some key design parameters for the more extensive low-pressure pipe networks being planned and installed in North Carolina.

Pressure distribution manifolds feeding conventional gravity drain lines is another alternative being used in North Carolina to improve the distribution of effluent in large subsurface fields. This method is applied where soil conditions are favorable for conventional trenches and where the length of drain pipe required and degree of field slope would make it difficult to achieve uniform distribution between laterals in a low-pressure pipe network. Design criteria for such systems have not been previously available.

This paper sets forth some critical design parameters for pressure manifolds and laterals in large conventional and low-pressure pipe ground absorption sewage systems. The justification for these design parameters is presented elsewhere (Berkowitz, 1985)

PRESSURE MANIFOLDS FOR CONVENTIONAL DRAIN FIELDS

The traditional approach to dividing effluent between conventional trenches is with a gravity distribution box. While relatively simple in concept and design, distribution boxes have proven to be generally ineffective in uniformly distributing effluent, especially when the number of trenches to be dosed is large (Mitchell, 1983).

Pressure manifolds can be designed to more effectively split flow between separate conventional trenches while still under pressure from the dosing tank. Schematics are presented below of pressure manifolds designed for level (Fig. 1) and sloping (Fig. 2) sites.

Pressure manifolds must be installed level, although some deviations many not seriously impair flow uniformity. Protective accessible boxes are recommended to be constructed around pressure manifolds installed above the drain field on sloping sites. Note that precautions against freezing may be necessary in cold

The author is: Steven J. Berkowitz, Environmental Engineer, Sanitation Branch, N. C. Division of Health Services, Raleigh, NC 27602-2091.

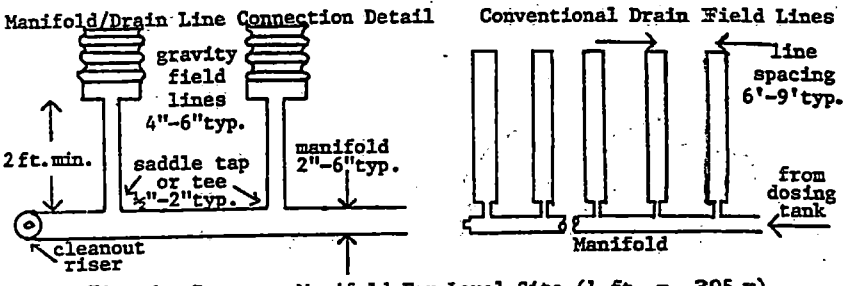


Fig. 1 Pressure Manifold For Level Site (1 ft. = .305 m)

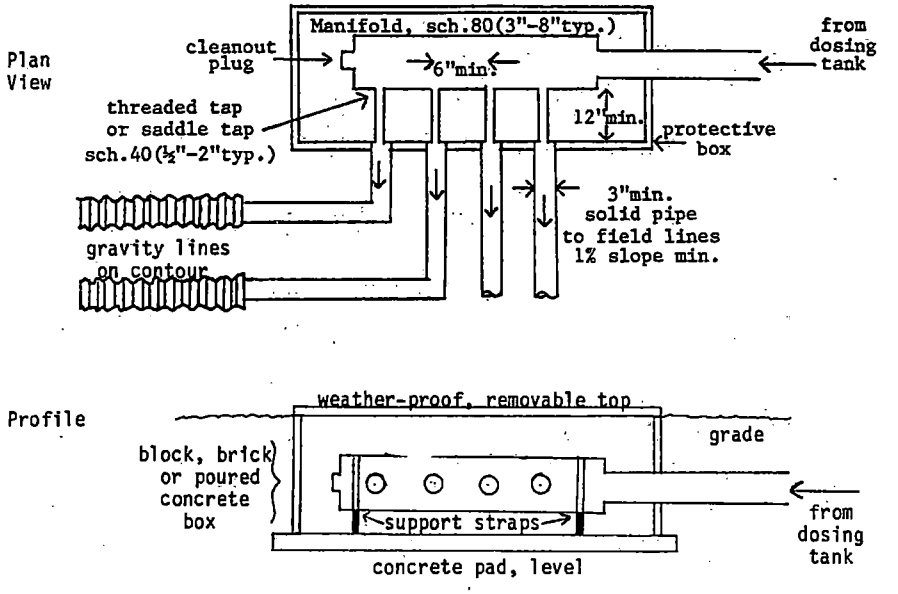


Fig. 2 Pressure Manifold For Sloping Sites

regions if the system is subject to extended periods of disuse unless provisions are made to drain out the manifolds, since they will normally remain about half-full between dosing cycles.

Design criteria for pressure distribution manifolds and laterals are presented in Table 1. Shown are the maximum number to taps by differently sized laterals which can be made out of manifolds of varying sizes, while maintaining no more than a five-percent difference between flow rates into each lateral. An important further assumption is that 1 to 4 feet of pressure head are available at the lateral outlets. Design criteria are presented both for manifolds with lateral taps in one side and for manifolds with lateral taps in adjacent sides.

Recommended design steps utilizing these criteria are as follows:

1. Select Drain Field Configuration: Determine the required field size, number of laterals to be dosed for each pressure manifold, and desired lateral and tap spacing.

2. Choose Lateral Tap Size: For pump dosed systems, pick the largest pressure tap that can be adequately pressurized by a reasonable sized pump. Use the orifice equation[1] to compute required flow per tap, assuming at least 2 feet of pressure head to each lateral opening. [redacted]. For siphon-dosed systems, select a tap size large enough to handle the maximum siphon discharge rate with the head available between the siphon outlet and the pressure manifold, while still maintaining a sufficient pressure head at the minimum siphon discharge rate.

3. Select Manifold Size: Given the desired lateral tap size and spacing, select from Table 1 the minimum size of manifold from which at least the desired number of taps can be made while staying within the five-percent flow variation limit. Selecting the next larger sized manifold will yield an even greater degree of flow distribution uniformity.

---

[1]Orifice equation: $Q = 13\ (d^2)(h^{½})$

where Q = flow from orifice, gallons per minute
d = diameter of orifice, inches
h = pressure head, feet

Table 1: Pressure Distribution Manifolds for Conventional Septic Systems; Manifold and Lateral Tap Size Criteria[a]

Tap Separation Distance (Feet)	Manifold Size (Inches)	Lateral Taps out of One Side of Manifold Lateral Tap Size (inches)						Lateral Taps out of Both Sides of Manifold Lateral Tap Size (inches)					
		½	¾	1	1 ¼	1 ½	2	½	¾	1	1 ¼	1 ½	2
		Maximum Number of Taps						Maximum Number of Tap Pairs					
(0.5)[b]	2	4	2					2					
	3	9	5	3	2			4	2				
	4	16	9	5	3	2		7	4	2			
	6	40+	21	12	7	5	3	18	10	6	3	2	
	8		38	22	12	9	5		17	10	6	4	2
3.0[c]	2	8	2					2					
	3	14	12	3	2			6	2				
	4	21	18	6	3	2		16	5	3			
	6	38	30	26	8	5	3	20+	19	7	3	2	
6.0[c]	2	5	4					4					
	3	9	7	6	2			7	3	2			
	4	14	11	9	4	2		10	9	3			
	6	27	20	17	14	7	3	19	15	13	4	3	
9.0[c]	2	4	3	3				3					
	3	7	6	5	2			6	5	2			
	4	12	9	7	6	3		8	7	6	2		
	6	22	16	13	11	10	4	15	12	10	5	3	

[a]Assumptions: 1 to 4 feet (.3 to 1.2 meters) head at lateral outlets; 5% maximum flow differential maintained between laterals; Hazen-Williams "C" factor of 140; taps are of Schedule 40 PVC and manifolds are of Schedule 80 PVC, with the following actual inside diameters:

	----nominal pipe size (inches)----									
	½	¾	1	1 ¼	1 ½	2	3	4	6	8
	----actual inside diameter: inches (millimeters)----									
Taps	.622(19)	.824(25)	1.049(42)	1.38(42)	1.61(49)	2.067(63)				
Manifolds						1.94(59)	2.90(88)	3.83(117)	5.76(176)	7.63(232)

[b]Use for pressure manifold distribution box designed for sloping lots, located above highest field line.

[c]Use for pressure manifold on flat lots, located adjacent to end of each field line.

PRESSURE MANIFOLDS FOR LOW-PRESSURE PIPE DRAIN FIELDS

Low-pressure systems involve distributing effluent throughout the nitrification field within a pressurized manifold and small diameter lateral network. Effluent enters the nitrification trenches from orificies drilled into the distribution laterals (Fig. 3).

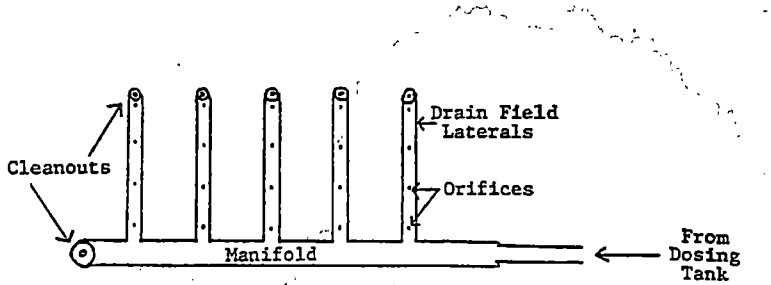


Fig. 3 Low-Pressure Pipe Drain Field

Pressure is generally maintained between 2 and 5 feet in the laterals to facilatate uniform distribution while minimizing scour outside of the orifices.

Critical design parameters for laterals are pipe diameter, lateral length, orifice size, and orifice spacing. In most low-pressure pipe applications in North Carolina, orifices range from 1/8-inch to 1/4-inch, with 5/32-inch orifices now recommended as the minimum size to use. Curves were developed which relate maximum lateral length to pipe diameter, orifice size, and spacing, based on yielding no more than a ten-percent difference between flow rates from each orfice (Fig. 4).

Critical design decisions for low-pressure system manifolds involve selecting the manifold diameter needed relative to the diameter of the laterals served and determining the maximum number of laterals which can be fed off a common supply manifold. Manifold design criteria are presented for the condition that the nitrification field is level and the manifold and laterals are on the same level (e.g.; laterals tee directly off from the manifold). Lateral spacing is assumed to be 5 feet, the most frequently used spacing for low-pressure pipe systems in North Carolina. Results are presented in Fig. 5 showing the maximum number of laterals of different sizes which can be supplied by a common manifold at varying mean lateral flow rates, while maintaining no more than 15-percent difference between flow rates into each lateral.

Results shown in Fig. 5 indicate that relatively few laterals can be served by small manifolds. It is uncertain, however, whether these criteria can be considered directly transferable to the more popular design whereby laterals are above the manifold, connected by short risers which tee off of the manifold and are elbowed or teed into each lateral. Under these conditions, more laterals than shown in Fig. 5 may in fact be fed by a common manifold while still maintaining relatively uniform flow distribution. Further research in this area is needed.

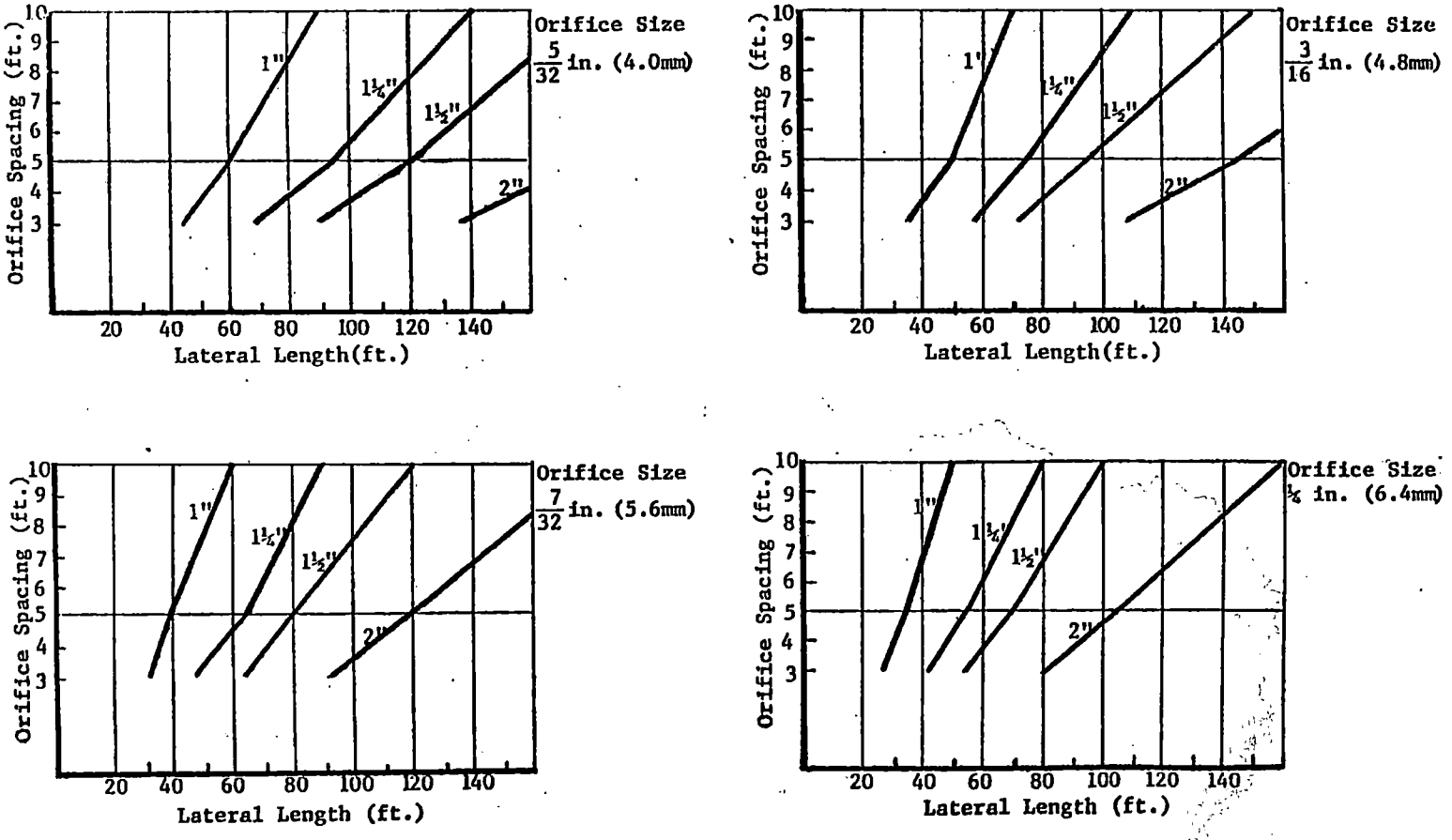


Fig. 4 Maximum Length of Different Sized Laterals For Low-Pressure Pipe Systems With Varying Orifice Sizes and Spacings (1 ft. = .305 m)

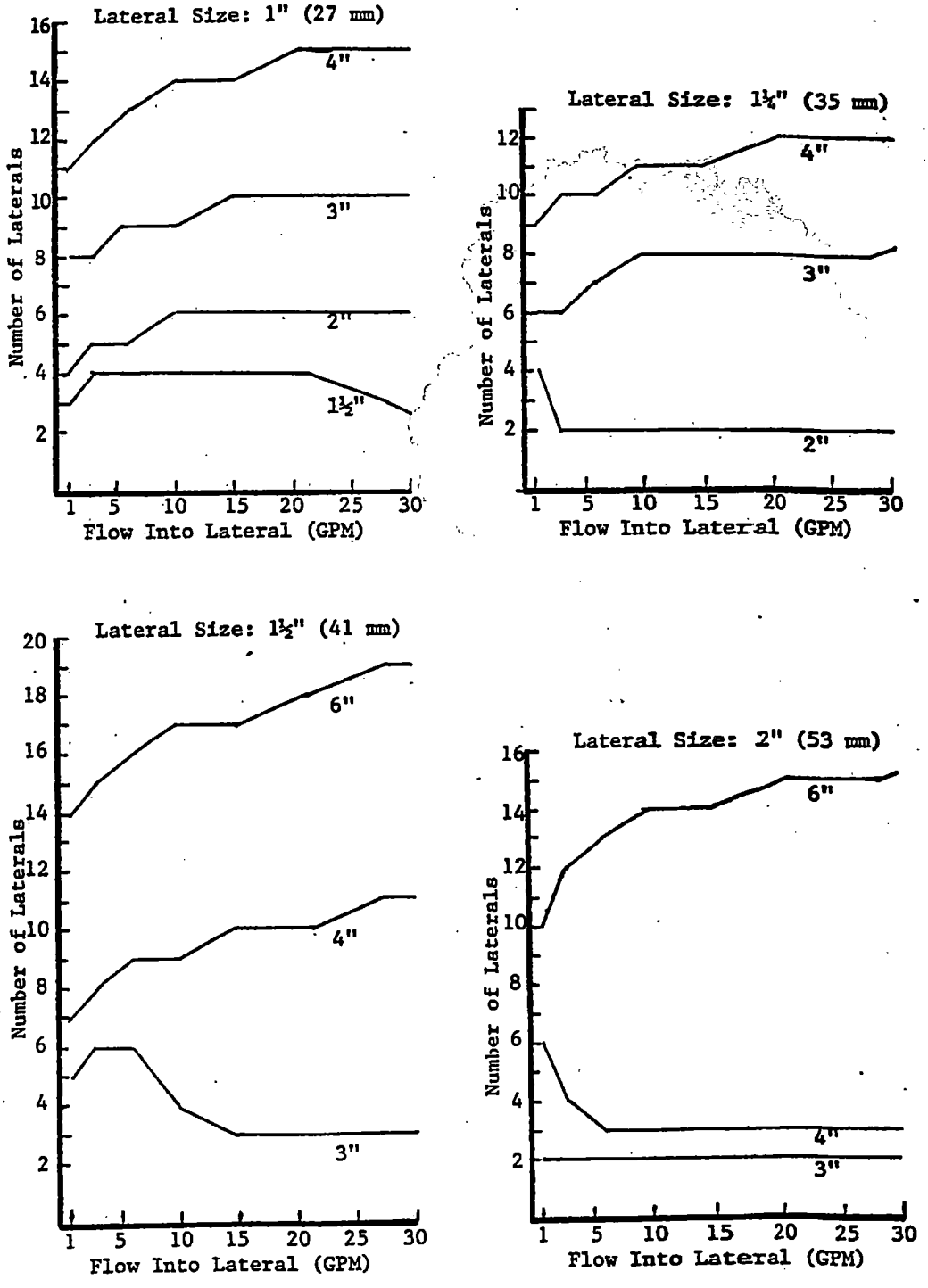


Fig. 5 Maximum Number of Different Sized Laterals For Low-Pressure Pipe Systems With Varying Sizes of Manifolds and Varying Rates of Flow Into Lateral (1 GPM = .0631 l/sec)

Recommended design steps using these criteria are as follows:

1. Select Drain Field Configuration: Determine the desired field size configuration, lengths of laterals, and location of supply manifolds.

2. Choose Orifice Size and Spacing: For pump dosed systems, select the largest orifice size and shortest orifice spacing resulting in a total number of orfices which can be adequately pressurized by a reasonably sized pump. Use the orifice equation to compute required flow per orifice, assuming at least 2 feet of pressure head at each orifice. Taps less than 5/32-inch and spacing greater than 10 feet are not recommended. For siphon-dosed systems, select an orifice size and spacing so that there are enough orifices of sufficient size to handle the maximum siphon discharge rate with the head available between the siphon outlet and the drain field, while still maintaining a sufficient pressure head at the minimum siphon discharge rate.

3. Choose Lateral Diameter: Given the desired lateral length and orifice size and spacing, select from Fig. 4 the minimum size of lateral from which at least the desired size and spacing of orifices can be used while staying within the 10-percent flow variation limit.

4. Select Manifold Size: Given the desired lateral size and lateral design flow rate, select from Fig. 5 the minimum size of manifold from which at least the desired number of laterals can be dosed while staying within the 15-percent flow variation limit.

5. Optimize Design: Repeat steps 1 through 4 above until a practical, workable manifold and lateral network design is obtained.

REFERENCES

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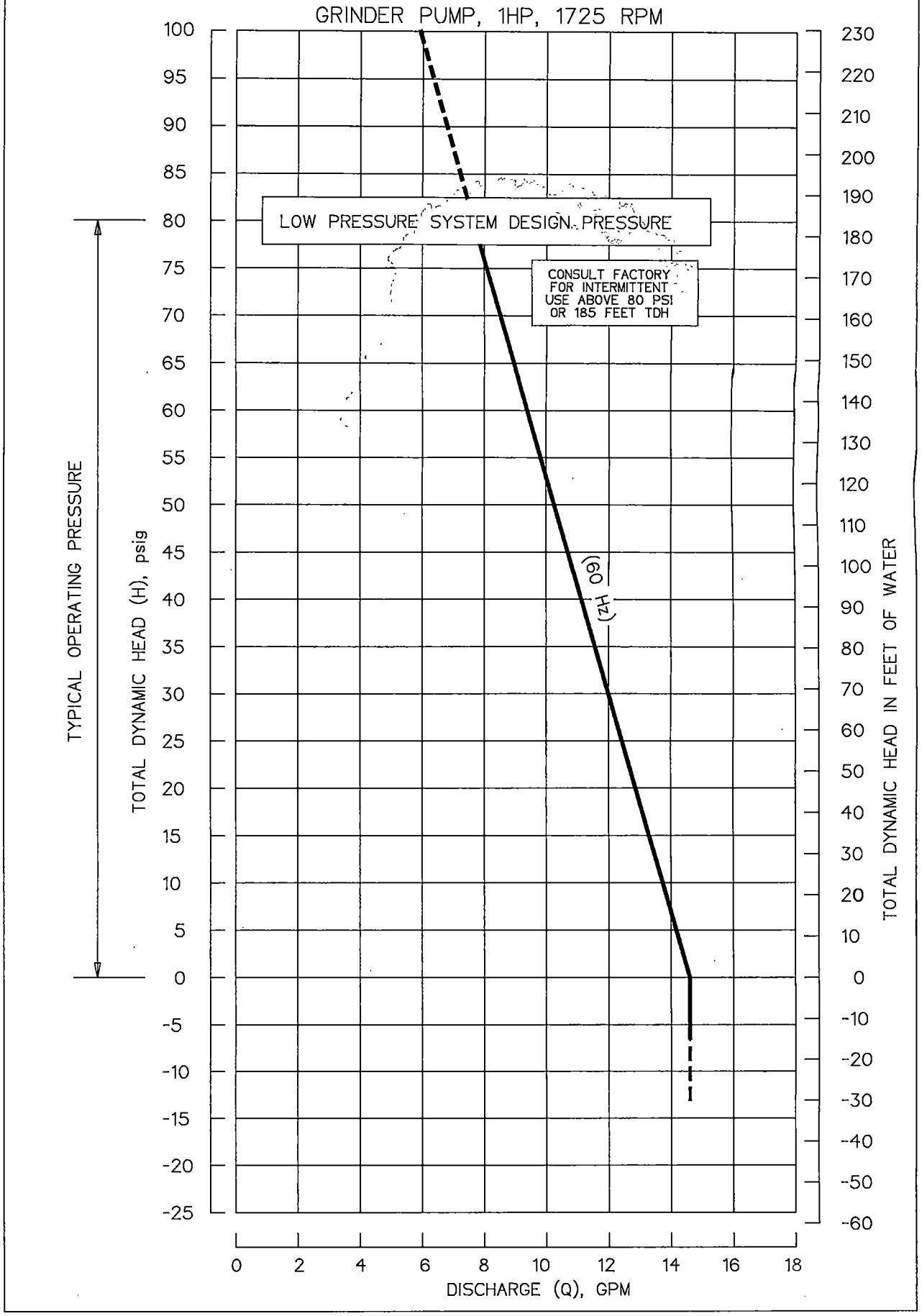
2. Cogger, C., B. L. Carlile, D. Osborne and E. Holland. 1982. Design and installation of low-pressure pipe waste treatment systems. UNC Sea Grant College Pub. UNC-SG-82-03. 31p.

3. Mitchell, D. 1983. Nonuniform distribution by septic tank systems. 1982 southeastern on-site sewage treatment conference. N. C. Div. Of Health Services, Raleigh, NC 37-45.

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5. Otis, R. J., J. C. Converse, B. L. Carlile and J. E. Witty. 1977. Effluent distribution. Home Sewage Treatment. ASAE Pub. 5-77. St. Joseph, Mich. 61-85

E|ONE SPD PUMP PERFORMANCE CURVE



1½-INCH WROUGHT-IRON PIPE.

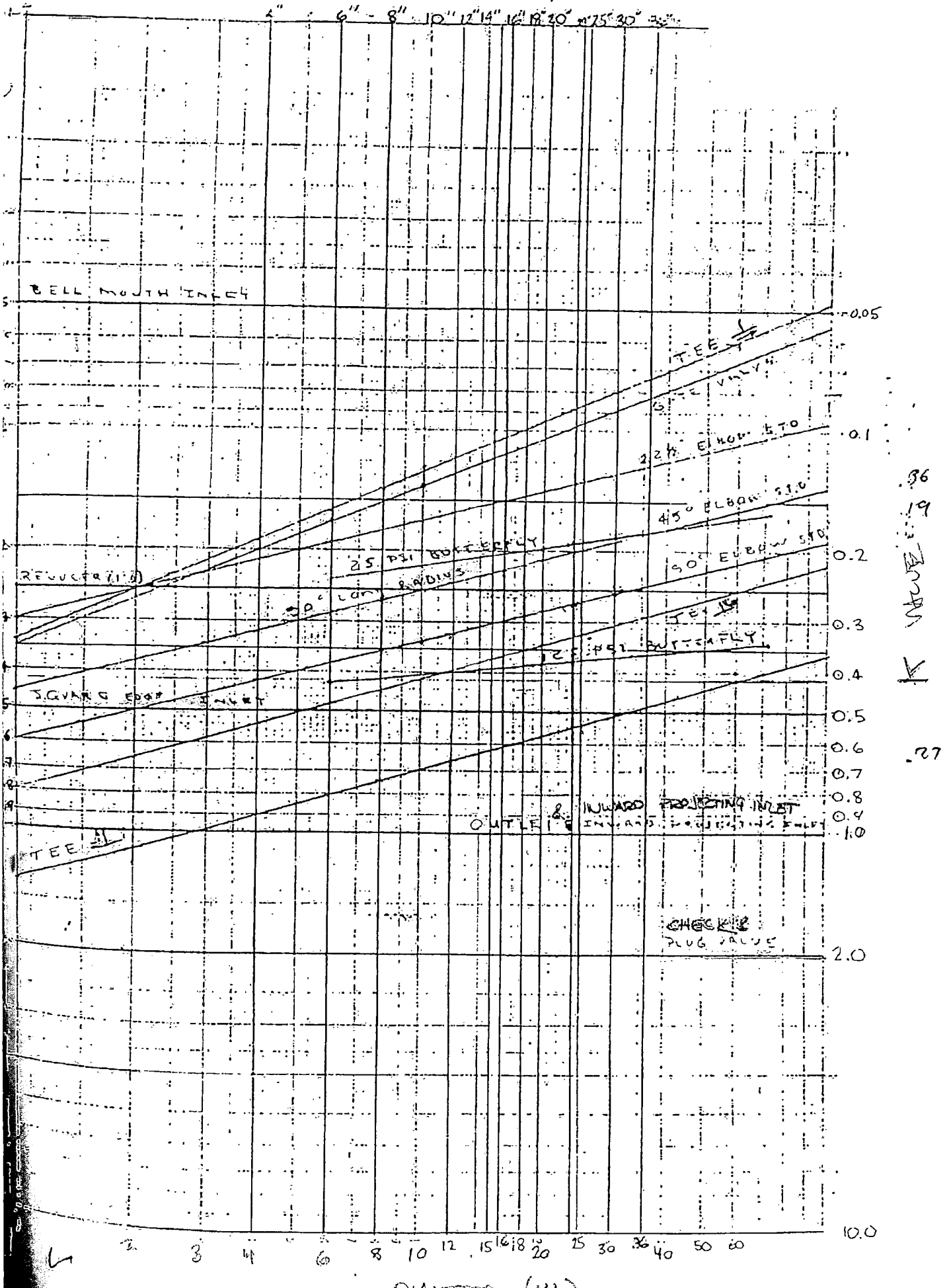
(Actual Diameter, 1.611.)

Discharge in Gallons.		Velocity, Feet per Second	Loss of Head in Feet per 1000 feet of length				
Per Minute.	Per 24 Hours.		Very Smooth and Straight c=140	Smooth New Iron c=120	Ordinary Iron c=100	Old Iron. c=80	Very Rough c=60
4	5,760	0.63	1.42	1.87	2.62	4.0	6.8
5	7,200	0.79	2.13	2.83	3.98	6.0	10.3
6	8,640	0.94	2.98	3.98	5.6	8.4	14.3
7	10,080	1.10	3.97	5.3	7.4	11.2	19.2
8	11,520	1.26	5.1	6.8	9.5	14.3	24.2
9	12,960	1.42	6.3	8.4	11.8	17.9	30.6
10	14,400	1.57	7.7	10.2	14.3	21.7	36.6
12	17,280	1.89	10.8	14.3	20.1	30.4	52
14	20,160	2.20	14.3	19.1	26.8	40.5	69
16	23,040	2.52	18.3	24.4	34.1	52	88
18	25,920	2.83	22.8	30.2	42.4	64	109
20	28,800	3.15	27.8	37	52	78	134
22	31,680	3.46	33.0	44	62	93	159
24	34,560	3.78	38.8	52	73	108	185
26	37,440	4.09	45.1	60	84	127	217
28	40,320	4.41	52	69	97	146	248
30	43,200	4.72	59	78	110	166	282
35	50,400	5.51	78	103	147	220	374
40	57,600	6.30	100	133	188	281	480
45	64,800	7.08	124	166	232	350	600
50	72,000	7.87	152	202	284	428	730
55	79,200	8.66	181	240	340	510	870
60	86,400	9.44	212	281	396	600	1020
65	93,600	10.23	246	328	459	700	1180
70	100,800	11.02	282	376	530	800	1360
75	108,000	11.80	321	427	600	900	1540
80	115,200	12.59	361	480	680	1020	1730
85	122,400	13.38	405	540	750	1140	1940
90	129,600	14.17	450	600	840	1260	2140
95	136,800	14.95	498	660	930	1400	2390
100	144,000	15.74	550	730	1020	1540	2620
110	158,400	17.31	650	870	1220	1840	3120
120	172,800	18.89	770	1020	1430	2170	3690
130	187,200	20.46	890	1180	1660	2500	4260
140	201,600	22.04	1020	1360	1900	2880	4890

2-INCH PIPE OR HOSE.

(Actual diameter, 2.00 ins.)

Discharge in Gallons.		Velocity in Feet per Second.	Velocity Head, Feet.	Loss of Head in Feet per 1000 feet of length.						
Per Minute.	Per 24 Hours.			Very Smooth and Straight Brass, Tin, etc. c=140	Ordinary Straight Brass, Tin, etc. c=130	Smooth New Iron. c=120	Ordinary Iron. c=100	Old Iron. c=80	Very Rough. c=60	Badly Tuberculated. c=40
6	8,640	0.61	0.01	1.0	1.2	1.4	2.0	2.9	5.0	10.7
8	11,520	0.82	0.01	1.8	2.0	2.4	3.3	5.0	8.6	18.2
10	14,400	1.02	0.02	2.7	3.1	3.6	5.0	7.6	12.9	27.4
12	17,280	1.23	0.02	3.8	4.3	5.0	7.0	10.7	18.1	38.5
14	20,160	1.43	0.03	5.0	5.8	6.7	9.4	14.2	24.1	51
16	23,040	1.63	0.04	6.4	7.4	8.6	12.0	18.2	30.9	66
18	25,920	1.84	0.05	8.0	9.2	10.7	14.9	22.7	38.6	82
20	28,800	2.04	0.06	9.8	11.2	12.9	18.2	27.5	46.8	99
25	36,000	2.55	0.10	14.8	16.9	19.6	27.3	41.6	71	150
30	43,200	3.06	0.15	20.7	23.8	27.3	38.4	58	99	210
35	50,400	3.57	0.20	27.5	31.5	36.6	51	78	132	280
40	57,600	4.08	0.26	35.1	40.2	46.8	66	99	168	359
45	64,800	4.60	0.33	43.8	50	58	82	123	210	446
50	72,000	5.11	0.40	53	61	71	99	150	257	540
55	79,200	5.62	0.49	64	73	84	118	179	305	640
60	86,400	6.13	0.58	74	86	99	139	210	359	760
65	93,600	6.64	0.68	86	99	115	161	244	416	880
70	100,800	7.15	0.79	99	114	132	184	280	477	1010
75	108,000	7.66	0.91	113	129	149	209	318	540	1150
80	115,200	8.17	1.04	127	146	169	237	358	610	1280
90	129,600	9.19	1.31	158	182	210	294	447	760	1610
100	144 000	10.21	1.62	192	220	256	358	540	920	1960
110	158,400	11.23	1.96	230	262	306	429	650	1110	2330
120	172,800	12.25	2.33	271	310	360	500	760	1300	2760
130	187,200	13.28	2.73	312	360	418	580	880	1510	3190
140	201,600	14.30	3.17	360	413	479	670	1020	1730	3670
150	216,000	15.32	3.64	407	465	540	760	1140	1950	4180
160	230,400	16.34	4.14	460	530	610	860	1290	2210	4690
170	244,800	17.36	4.67	520	590	690	960	1460	2480	5300
180	259,200	18.38	5.23	570	650	760	1070	1620	2730	5800
190	273,600	19.40	5.84	630	720	840	1180	1780	3030	6400
200	288,000	20.42	6.46	690	800	920	1290	1960	3330	7100
220	316,800	22.47	7.82	830	950	1110	1540	2340	3990	8400
240	345,600	24.51	9.31	980	1120	1300	1820	2760	4700	9900
260	374,400	26.55	10.90	1130	1290	1510	2110	3190	5400	11500


4" 6" 8" 10" 12" 14" 16" 18" 20" 25" 30" 36"
BELL MOUTH INLET
REDUCER (1:2)
SQUARE EDGE INLET
TEE
GATE VALVE
22½° ELBOW ETC
45° ELBOW ETC
90° LONG RADIUS
25 PSI BUTTERFLY
90° ELBOW STD
TEE
12" PSI BUTTERFLY
OUTLET & INWARD PROJECTING INLET
TEE
CHECK & PLUG VALVE
0.05
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9
1.0
2.0
10.0
2 3 4 6 8 10 12 15 16 18 20 25 30 36 40 50 60
DIAMETER (IN.)
.96
.19
.27

Department of Environment, Health, and Natural Resources
Division of Environmental Health
On-site Wastewater Section

Sheet: 1 of 2
Property ID: 113-092-03
Lot #: NA
File #: 10891B
AppID: 11948

SOIL/SITE EVALUATION
for ON-SITE WASTEWATER SYSTEM

Property Owner: City of Charlotte
Address: 600 East 4th Street, Charlotte NC 28202
Proposed Facility: Airport Overlook Bathrooms
Design Flow (.1949): ? GPD
Location of Site: 7320 Old Dowd Rd, Charlotte NC 28214
Water Supply: [ ] Public [ ] Individual [ ] Well [ ] Spring [X] Municipal
Evaluation Method: [X] Auger Boring [ ] Pit [ ] Cut
Type of Wastewater: [X] Sewage [ ] Industrial Process [ ] Mixed

Applicant: Jeff McSwain
Date Evaluated: 3/25/2021
Property Size: ?
Property Recorded: Unknown

PROFILE #	.1940 Landscape Position/ Slope%	Horizon Depth (IN.)	SOIL MORPHOLOGY .1941 .1941 Structure/ Texture	.1941 Consistence Mineralogy	PROFILE FACTORS[b] .1942 Soil Wetness/ Color	.1943 Soil Depth (IN.)	.1956 Sapro Class	.1944 Restr Horiz	General Comments	Profile Class & LTAR	Maximum Trench Bottom Depth for 3' Wide Conventional Trench
Boring #1	LS 10%	0 - 4	gr L	SS SP FR SEXP	>48"	48	NA	NA		PS IV 0.3	32"
		4 - 12	sbk CL	SS SP FR SEXP							
		12 - 48	sbk C	S P FI SEXP							
Boring #2	LS 10%	0 - 4	gr L	SS SP FR SEXP	>46"	46	NA	NA		PS IV 0.3	30"
		4 - 10	sbk CL	SS SP FR SEXP							
		10 - 28	sbk C	S P FI SEXP							
		28 - 34	sbk CL	SS SP FR SEXP							
		34 - 46	sbk L	SS SP FR SEXP							
Boring #3	LS 10%	0 - 4	gr L	SS SP FR SEXP	>48"	48	NA	NA		PS IV 0.3	32"
		4 - 34	sbk C	S P FI SEXP							
		34 - 48	sbk CL	SS SP FR SEXP							
Boring #4	LS 10%	0 - 4	gr L	SS SP FR SEXP	>48"	48	NA	NA		PS IV 0.3	32"
		4 - 38	sbk C	S P FI SEXP							
		38 - 48	sbk CL	SS SP FR SEXP							
Boring #5	LS 10%	0 - 4	gr L	SS SP FR SEXP	>46"	46	NA	NA		PS IV 0.3	30"
		4 - 34	sbk C	S P FI SEXP							
		34 - 40	sbk CL	SS SP FR SEXP							
		40 - 46	sbk L	SS SP FR SEXP							

Description	Initial System	Repair System
Available Space (.1945)		
System Type(s)		
Site LTAR (gpd/sq ft)	0.3	0.3

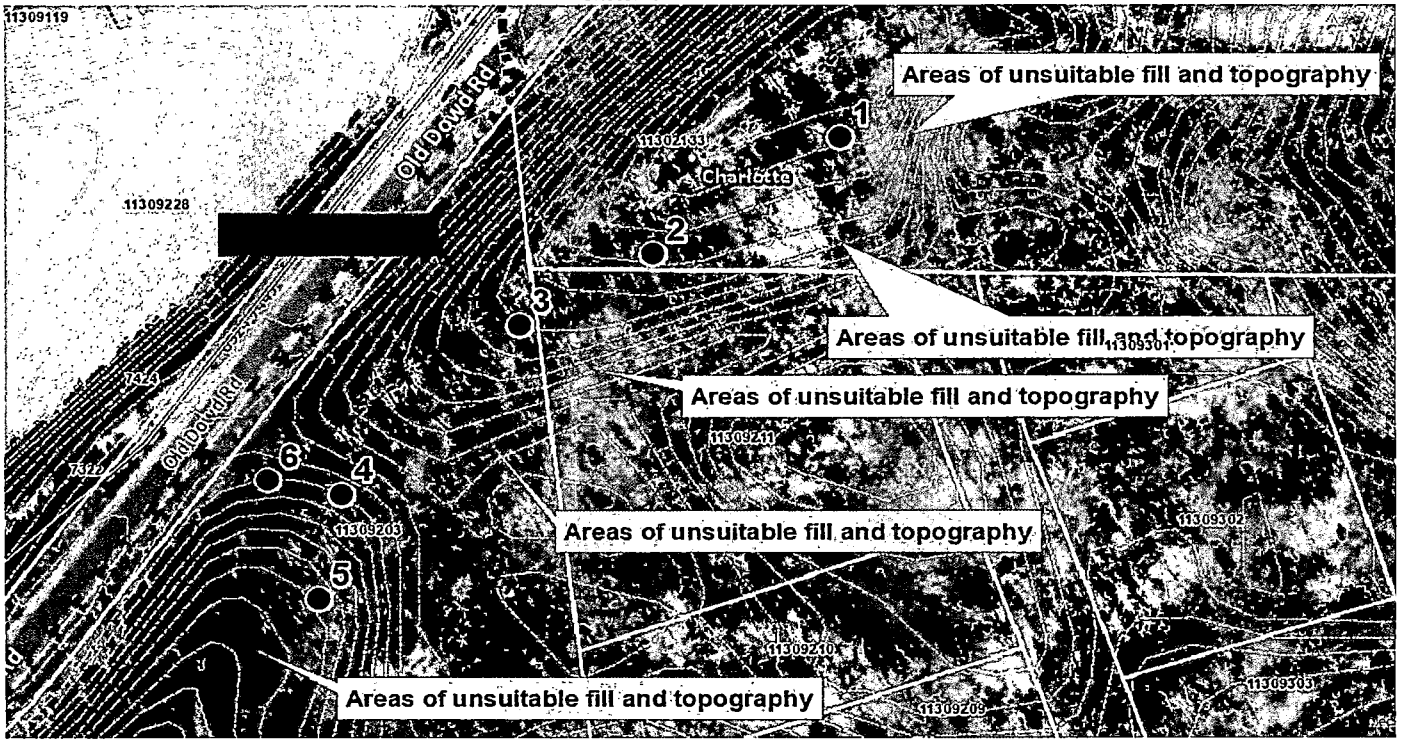
Other Factors (.1946):
Soil Evaluation By: Jacob Presley, REHS, LSS
Others Present: Walter Cole, LSS
Site Classification (.1948):
Site Evaluation By:
Others Present:

COMMENTS: This is a draft for information purposes only.

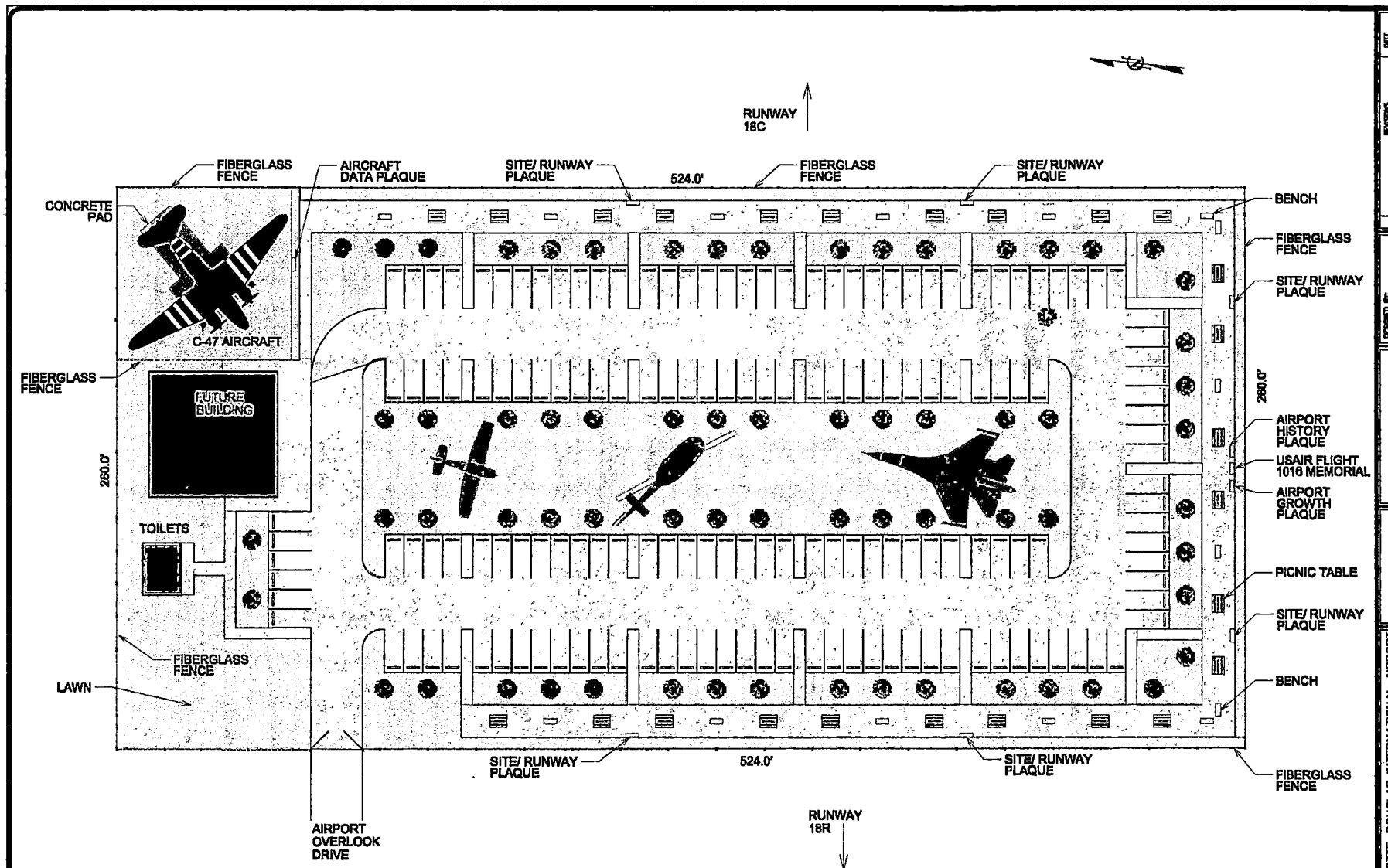
Landscape Position	Group	Texture	.1955 LTAR	Structure
R-Ridge	I	S-Sand	1.2 - 0.8	sg-Single Grain
SS-Shoulder Slope		LS-Loamy Sand		mass-Massive
LS-Linear Slope				cr-Crumb
FS-Foot Slope	II	SL-Sandy Loam	0.8 - 0.6	gr-Granular
NS-Nose Slope		L-Loam		sbk-Subangular Blocky
HS-Head Slope				abk-Angular Blocky
CC-Concave Slope	III	Si-Silt	0.6 - 0.3	pl-Platy
CV-Convex Slope		SiCL-Silty Clay Loam		pr-Prismatic
T-Terrace				Sap-Saprolite
FP-Flood Plain		CL-Clay Loam		**Structure Prefixes**
D-Drainage Way		SCL-Sandy Clay Loam		w-weak
				m-moderate
		SiL-Silt Loam		s-strong
				f-fine
	IV	SC-Sandy Clay	0.4 - 0.1	m-medium
		SiC-Silty Clay		c-coarse
		C-Clay		

Consistence Moist	Consistence Wet	Mineralogy
VFR-Very Friable	SS-Slightly Sticky	SEXP-Slightly Expansive
FR-Friable	S-Sticky	EXP-Expansive
FI-Firm	VS-Very Sticky	
VFI-Very Firm	NP-Non-Plastic	**Classification**
EFI-Extremely Firm	SP-Slightly Plastic	US-Unsuitable
	P-Plastic	PS-Provisionally Suitable
	VP-Very Plastic	S-Suitable
		NA-Not Applicable

Sketch of Soil Evaluation Locations




POLE
POLE
POLE
1) B 90'
2) Y
3)
5) R 205'
6) B 205'
7) Y 230'
8) O 300'
9) R 240'
10) B 105'
11) P
12) Y 160'
13) O 100'
14) R 75'
15) B 75'
17) Y
18) O 90'
19) B 90'
20) P 75'
21) O 90'
22) Y 105'
23) R 115'
24) B 90'
25) P 110'
26) O 100'
27) Y 110'
28) B 90'
29) R 90'
30) O 70'
31) B 90'
32) Y 90'



SITE PLAN

SCALE 1' = 20' - 0"

SITE: 3.13 ACRES

TOTAL PARKING: 156 SPACES

STV 100 Years
STV Engineers, Inc.
900 West Trade St. Suite 715
Charlotte, NC 28202
NC License Number F-0991

PRELIMINARY
NOT RELEASED FOR CONSTRUCTION

TALBERT, BRIGHT & ELLINGTON
ENGINEERING & PLANNING CONSULTANTS
3525 WHITEHALL PARK DRIVE, SUITE 210
CHARLOTTE, NORTH CAROLINA 28273
PHONE: 704-525-1678 FAX: 704-525-5256
NO LICENSE NO. C-1163

CHARLOTTE-DOUGLAS INTERNATIONAL AIRPORT
AIRPORT OVERLOOK
PROPOSED SITE PLAN
OPTION A

SCALE: 1"=20'-0"

FILE NAME:

SHT. 1

N.E.A.T.

PRELIMINARY NOT RELEASED FOR CONSTRUCTION

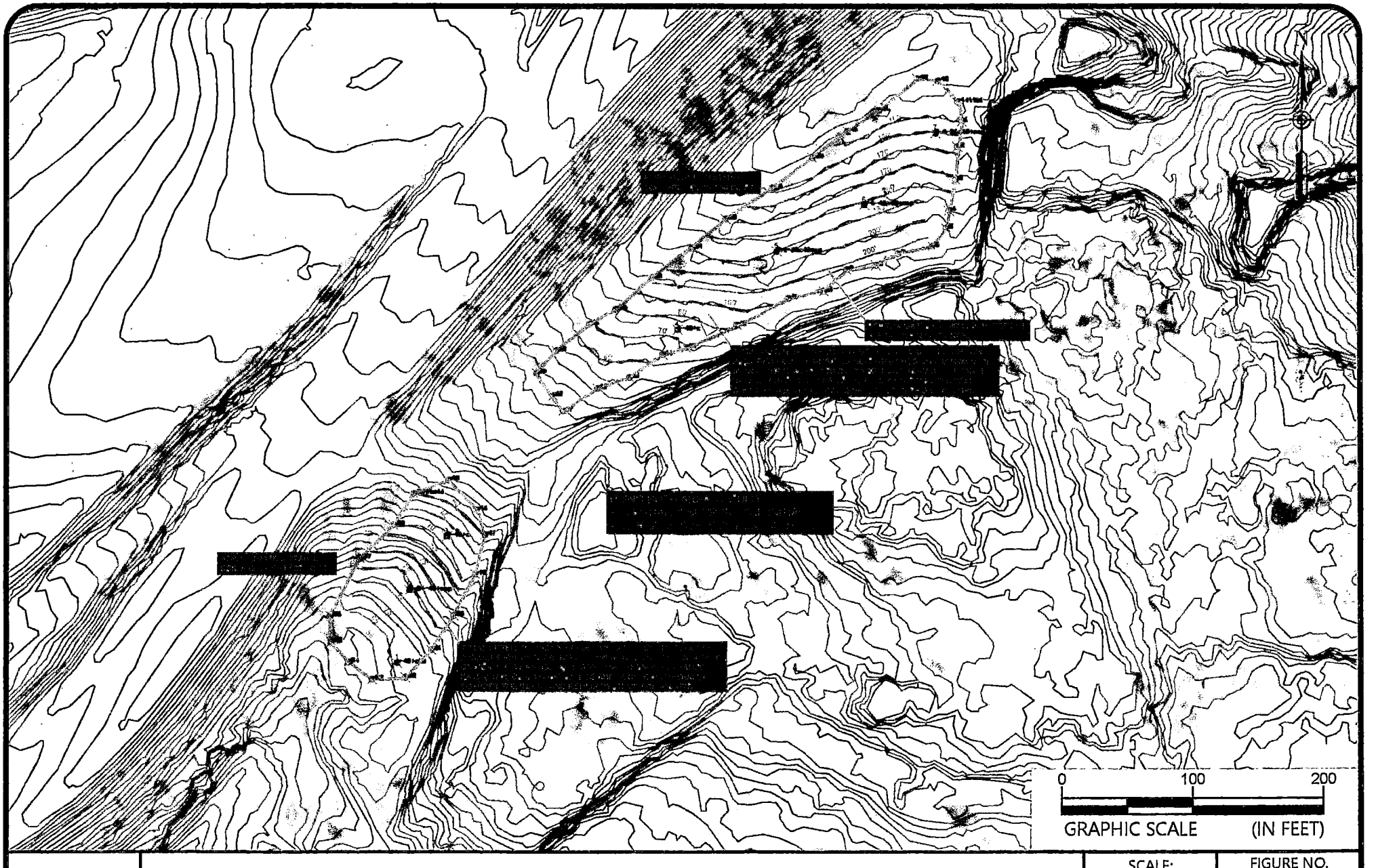
SCALE 1" = 100'
0 100 200 300 400

STV Engineers, Inc.
900 West Trade St., Suite 715
Charlotte, NC 28202
NC License Number F-0991

TALBERT, BRIGHT & ELLINGTON

CLT

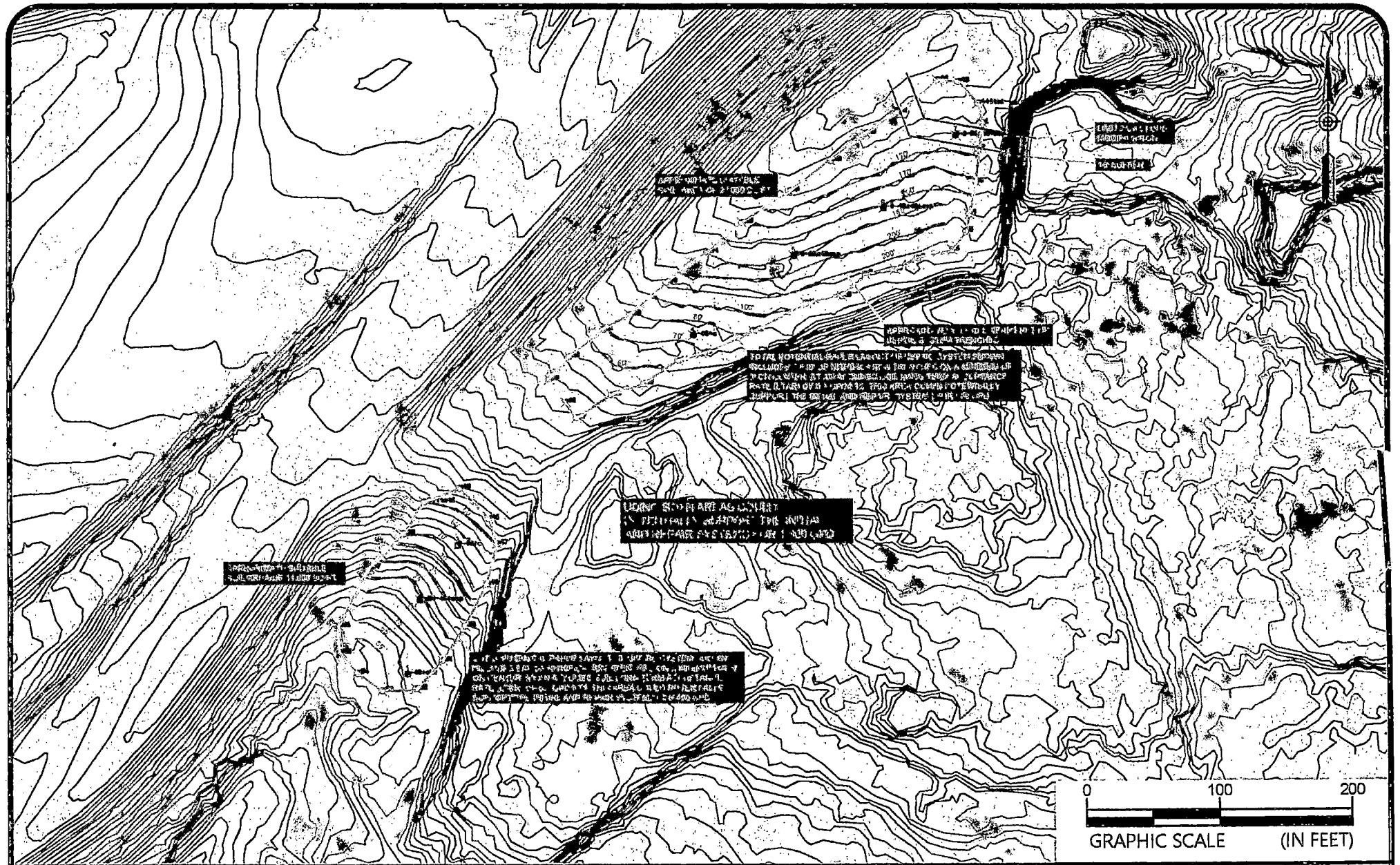




SEPTIC SYSTEM - NO SLOPE IMPACT

NORTH END AROUND TAXIWAY
CHARLOTTE DOUGLAS INTERNATIONAL AIRPORT
CHARLOTTE, NORTH CAROLINA

SCALE:	FIGURE NO.
1" = 100'	A
DATE:	
1/18/2021	
PROJECT NUMBER	
1335-19-012	



SEPTIC SYSTEM - SLOPE IMPACT

NORTH END AROUND TAXIWAY
CHARLOTTE DOUGLAS INTERNATIONAL AIRPORT
CHARLOTTE, NORTH CAROLINA

SCALE:	FIGURE NO.
1" = 100'	B
DATE:	
1/18/2021	
PROJECT NUMBER	
1335-19-012	

MECKLENBURG COUNTY
LAND USE AND ENVIRONMENTAL SERVICES
Payment Receipt

Receipt Information

Date:	02/19/21	**Amount:**	450.00
Receipt #:	126816	**Tendered:**	450.00
Check / Auth #:	CHECK 3111	**Returned:**	0.00
Received By:	ELLISLW		

Account Information

Account #: 200000
Contractor: TALBERT, BRIGHT & ELLINGTON, IN
Attn:
Address: 3525 WHITEHALL PARK DR, STE 210
Address:
City/State/Zip: CHARLOTTE, NC 28273

Item	Description	Permit#	Quantity	Unit Price	Total Price
0735	Improv Permit Appl-Comm 7320 ~~WALLACE NEEL RD~~ Old Dowd Rd		1	450.00	450.00

Outstanding Balances

Month-To-Date	Prior Month	30 Days	60 Days	90 Days	Balance

MECKLENBURG COUNTY
LAND USE AND ENVIRONMENTAL SERVICES
Payment Receipt

Receipt Information

Date:	02/19/21	**Amount:**	200.00
Receipt #:	126818	**Tendered:**	200.00
Check / Auth #:	CHECK 3111	**Returned:**	0.00
Received By:	ELLISLW		

Account Information

Account #: 200000
Contractor: TALBERT, BRIGHT & ELLINGTON, IN
Attn:
Address: 3525 WHITEHALL PARK DR, STE 210
Address:
City/State/Zip: CHARLOTTE, NC 28273

Item	Description	Permit#	Quantity	Unit Price	Total Price
0703	Septic Operational Permit 7320 ~~WALLACE NEEL RD~~ old Dowd Rd		1	200.00	200.00

Outstanding Balances

Month-To-Date	Prior Month	30 Days	60 Days	90 Days	Balance

MECKLENBURG COUNTY
LAND USE AND ENVIRONMENTAL SERVICES
Payment Receipt

Receipt Information

Date: 02/19/21
Receipt #: 126819
Check / Auth #: CHECK 3111
Received By: ELLISLW

Amount: 200.00
Tendered: 200.00
Returned: 0.00

Account Information

Account #: 200000
Contractor: TALBERT, BRIGHT & ELLINGTON, IN
Attn:
Address: 3525 WHITEHALL PARK DR, STE 210
Address:
City/State/Zip: CHARLOTTE, NC 28273

Item	Description	Permit#	Quantity	Unit Price	Total Price
0734	Septic Construction Authorizat 7320 ~~WALLACE NEEL RD~~ Old Dowd Rd		1	200.00	200.00

Outstanding Balances

Month-To-Date	Prior Month	30 Days	60 Days	90 Days	Balance

Department of Environment, Health, and Natural Resources
Division of Environmental Health
On-site Wastewater Section

Sheet: 1 of 2
Property ID: 113-092-03
Lot #: NA
File #: 10891B
AppID: 11948

SOIL/SITE EVALUATION
for ON-SITE WASTEWATER SYSTEM

erty Owner: City of Charlotte
Address: 600 East 4th Street, Charlotte NC 28202
Proposed Facility: Airport Overlook Bathrooms
Location of Site: 7320 Old Dowd Rd, Charlotte NC 28214

Applicant: Jeff McSwain
Date Evaluated: 3/25/2021
Design Flow (.1949): ? GPD
Property Size: ?
Property Recorded: Unknown

Water Supply: [ ] Public [ ] Individual [ ] Well [ ] Spring [X] Municipal
Evaluation Method: [X] Auger Boring [ ] Pit [ ] Cut
Type of Wastewater: [X] Sewage [ ] Industrial Process [ ] Mixed

PROFILE #	.1940 Landscape Position/ Slope%	Horizon Depth (IN.)	SOIL MORPHOLOGY .1941 .1941 Structure/ Texture	.1941 Consistence Mineralogy	b PROFILE FACTORS .1942 Soil Wetness/ Color	.1943 Soil Depth (IN.)	.1956 Sapro Class	.1944 Restr Horiz	General Comments	Profile Class & LTAR	Maximum Trench Bottom Depth for 3' Wide Conventional Trench
Boring #1	LS 10%	0 - 4	gr L	SS SP FR SEXP	>48"	48	NA	NA		PS IV 0.3	32"
		4 - 12	sbk CL	SS SP FR SEXP							
		12 - 48	sbk C	S P FI SEXP							
Boring #2	LS 10%	0 - 4	gr L	SS SP FR SEXP	>46"	46	NA	NA		PS IV 0.3	30"
		4 - 10	sbk CL	SS SP FR SEXP							
		10 - 28	sbk C	S P FI SEXP							
		28 - 34	sbk CL	SS SP FR SEXP							
		34 - 46	sbk L	SS SP FR SEXP							
Boring #3	LS 10%	0 - 4	gr L	SS SP FR SEXP	>48"	48	NA	NA		PS IV 0.3	32"
		4 - 34	sbk C	S P FI SEXP							
		34 - 48	sbk CL	SS SP FR SEXP							
Boring #4	LS 10%	0 - 4	gr L	SS SP FR SEXP	>48"	48	NA	NA		PS IV 0.3	32"
		4 - 38	sbk C	S P FI SEXP							
		38 - 48	sbk CL	SS SP FR SEXP							
Boring #5	LS 10%	0 - 4	gr L	SS SP FR SEXP	>46"	46	NA	NA		PS IV 0.3	30"
		4 - 34	sbk C	S P FI SEXP							
		34 - 40	sbk CL	SS SP FR SEXP							
		40 - 46	sbk L	SS SP FR SEXP							

Description	Initial System	Repair System
Available Space (.1945)	PS	PS
System Type(s)	III b	III b
.TAR (gpd/sq ft)	0.3	0.3

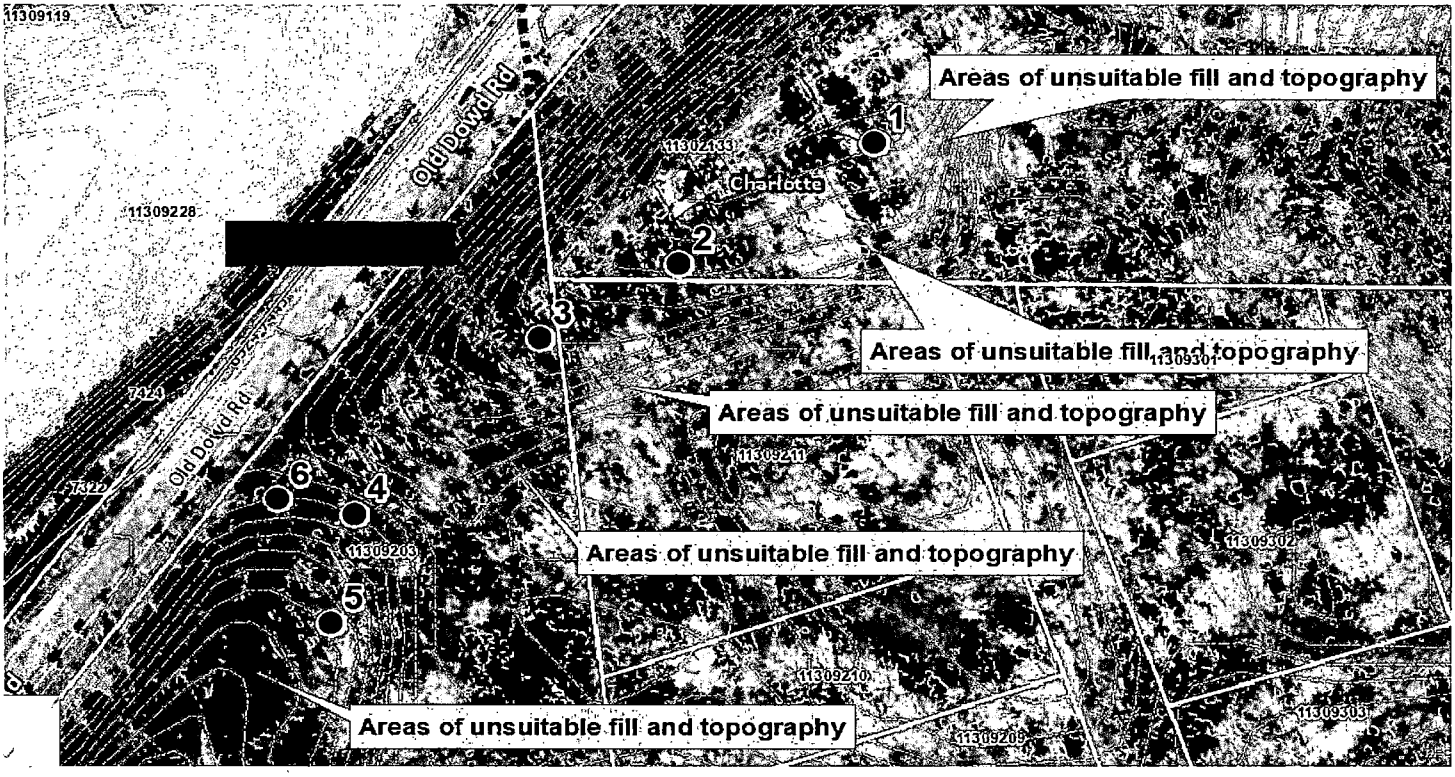
Other Factors (.1946):
Soil Evaluation By: Jacob Presley, REHS, LSS
Others Present: Walter Cole, LSS
Site Classification (.1948):
Site Evaluation By:
Others Present:

COMMENTS: This Is a draft for information purposes only.

Landscape Position	Group	Texture	.1955 LTAR	Structure
R-Ridge	I	S-Sand	1.2 - 0.8	sg-Single Grain
SS-Shoulder Slope		LS-Loamy Sand		mass-Massive
LS-Linear Slope				cr-Crumb
FS-Foot Slope	II	SL-Sandy Loam	0.8 - 0.6	gr-Granular
NS-Nose Slope		L-Loam		sbk-Subangular Blocky
HS-Head Slope				abk-Angular Blocky
CC-Concave Slope	III	Si-Silt	0.6 - 0.3	pl-Platy
CV-Convex Slope		SiCL-Silty Clay Loam		pr-Prismatic
T-Terrace				Sap-Saprolite
FP-Flood Plain		CL-Clay Loam		**Structure Prefixes**
D-Drainage Way		SCL-Sandy Clay Loam		w-weak
				m-moderate
		SiL-Silt Loam		s-strong
				f-fine
	IV	SC-Sandy Clay	0.4 - 0.1	m-medium
		SiC-Silty Clay		c-coarse
		C-Clay		

Consistence Moist	Consistence Wet	Mineralogy
VFR-Very Friable	SS-Slightly Sticky	SEXP-Slightly Expansive
FR-Friable	S-Sticky	EXP-Expansive
FI-Firm	VS-Very Sticky	
VFI-Very Firm	NP-Non-Plastic	**Classification**
EFI-Extremely Firm	SP-Slightly Plastic	US-Unsuitable
	P-Plastic	PS-Provisionally Suitable
	VP-Very Plastic	S-Suitable
		NA-Not Applicable

Sketch of Soil Evaluation Locations



Mecklenburg County Groundwater & Wastewater Services
3205 Freedom Dr., Suite 8000 Charlotte, NC 28208
Phone: (980) 314-1680 Fax: (704) 336-6894

NC DHHS
Division of Environmental Health
On-Site Wastewater Section

IMPROVEMENT PERMIT for a COMMERCIAL ON-SITE WASTEWATER TREATMENT & DISPOSAL SYSTEM

Permit #: **30013524** GWS File #: **11558B** Tax Parcel #: **113-092-03**

- This IMPROVEMENT PERMIT is subject to revocation if site plans or the intended use change. There is to be **NO** grading, filling, or disturbance of the soil in the area of the septic tank system or repair area.
- CONSTRUCTION AUTHORIZATION must be obtained prior to receiving a Building Permit. Do not clear, grade, fill or disturb soil prior to obtaining a Construction Authorization.
- Domestic-type wastewater only. No industrial process wastewater may be discharged into the system.

I. This Improvement Permit Shall: Expire in Five (5) Years **Expiration Date (If Applicable):** 3/13/2028

Intallation Type: Commercail/Industrial - New System Business Type: Commercial

Facility Size (ft^2): 638 # Employees/Shift: 0 # Shifts: 0

Wastewater Type: Sewage Water Supply: Municipal

II. Initial System Type: Pump to Accepted **System Classification:** IIIb

Initial System Specifications:

Design Flow (gpd): 1450 LTAR (gpd/ft^2): 0.28 Septic Tank Size (gal): 2500 Pump Tank Size (gal): 2500

Trench Width (ft): 3 Trench Spacing (ft): 9 Absorption Area (ft^2): 3884 Total Trench Length (ft): ~~1295~~ 1335

Maximum Trench Depth (in): 30 Depth of Media (in): 12 Distribution Device: Pressure Manifold

III. Repair System Type: Pump to Accepted **System Classification:** IIIb

Repair System Specifications:

Design Flow (gpd): 1450 LTAR (gpd/ft^2): 0.28 Septic Tank Size (gal): 2500 Pump Tank Size (gal): 2500

Trench Width (ft): 3 Trench Spacing (ft): 9 Absorption Area (ft^2): 3884 Total Trench Length (ft): ~~1295~~ 1335

Maximum Trench Depth (in): 30 Depth of Media (in): 12 Distribution Device: Pressure Manifold

IV. Permit Conditions/Comments:

(Please See the Following Page for Permit Conditions.)

The undersigned, an authorized agent of the STATE OF NORTH CAROLINA, certifies that the Department is issuing an IMPROVEMENT PERMIT for the above referenced property. This permit is being issued in accordance with the *Laws and Rules For Sewage Treatment, and Disposal Systems* and is subject to the following provisions:

- No work shall be conducted on the septic system until a Pre-Construction meeting has been completed by the Department.
- The septic system installer shall be a licensed septic contractor with the North Carolina Wastewater Contractor Inspector Certification Board.
- The permitted system shall be installed in accordance with the included PLOT PLAN.
- This IMPROVEMENT PERMIT is transferable.

Authorized Agent: Jeremy Michelone Owner/Legal Agent: _____
Print Name

Signature: Jeremy Michelone REHS Signature: _____

Date Issued: 3/13/2023

Mecklenburg County Groundwater & Wastewater Services
3205 Freedom Dr., Suite 8000 Charlotte, NC 28208
Phone: (980) 314-1680 Fax: (704) 336-6894

NC DHHS
Division of Environmental Health
On-Site Wastewater Section

IMPROVEMENT PERMIT for a COMMERCIAL ON-SITE WASTEWATER TREATMENT & DISPOSAL SYSTEM

Permit #: **30013524** GWS File #: **11558B**

IV. Permit Conditions/Comments:

- Easement agreement forms shall be on file and the property shall be deeded and recorded prior to issuance of Construction Authorization.
- This type of septic system requires an inspection once every 5 years by our office. The system owner is responsible for any fees, as determined by the Mecklenburg County Board of Commissioners, associated with this inspection.
- All drainage improvements (swales, interceptor drains, etc.) noted on the plot plan must be inspected and approved prior to issuance of an Operation Permit.
- The septic system shall be installed in accordance with the plans submitted by the wastewater system design consultant.
- All components of the septic system must be installed in accordance with the required setbacks listed on the corresponding plot plan.
- All waterlines must be located a minimum of 10 ft. from any part of the septic system.
- Upon completion of the project the system designer shall provide Groundwater & Wastewater Services with a letter certifying that the system was installed in accordance with the approved design.
- The permitted system design requires a pressure manifold with varying tap diameters and/or pipe schedules. The contractor should review the specification detail provided by the system designer prior to bidding the project.
- The supply pipe shall be installed with a minimum of 30" of compacted cover over the pipe or properly sleeved under areas that are subject to vehicular traffic.
- Flow from all gutters and downspouts shall be directed not to discharge water onto or across any part of the septic system.
- All properties must be combined into one parcel before Construction Authorization granted.

The undersigned, an authorized agent of the STATE OF NORTH CAROLINA, certifies that the Department is issuing an IMPROVEMENT PERMIT for the above referenced property. This permit is being issued in accordance with the *Laws and Rules For Sewage Treatment and Disposal Systems* and is subject to the following provisions:

- No work shall be conducted on the septic system until a Pre-Construction meeting has been completed by the Department.
- The septic system installer shall be a licensed septic contractor with the North Carolina Wastewater Contractor Inspector Certification Board.
- The permitted system shall be installed in accordance with the included PLOT PLAN.
- This IMPROVEMENT PERMIT is transferable.

Authorized Agent: Jeremy Michelone

Signature: RCHS

Date Issued: 3/13/2023

Owner/Legal Agent: _____
Print Name

Signature: _____

Mecklenburg County Groundwater & Wastewater Services
3205 Freedom Dr., Suite 8000 Charlotte, NC 28208
Phone: (980) 314-1680 Fax: (704) 336-6894

NC DHHS
Division of Environmental Health
On-Site Wastewater Section

IMPROVEMENT PERMIT for a COMMERCIAL ON-SITE WASTEWATER TREATMENT & DISPOSAL SYSTEM

Permit #: 30013524 GWS File #: 11558B Tax Parcel #: 113-092-03

- This IMPROVEMENT PERMIT is subject to revocation if site plans or the intended use change. There is to be NO grading, filling, or disturbance of the soil in the area of the septic tank system or repair area.
- CONSTRUCTION AUTHORIZATION must be obtained prior to receiving a Building Permit. Do not clear, grade, fill or disturb soil prior to obtaining a Construction Authorization.
- Domestic-type wastewater only. No industrial process wastewater may be discharged into the system.

I. This Improvement Permit Shall: Expire in Five (5) Years **Expiration Date (If Applicable):** 3/13/2028

Intallation Type: Commercail/Industrial - New System Business Type: Commercial

Facility Size (ft^2): 638 # Employees/Shift: 0 # Shifts: 0

Wastewater Type: Sewage Water Supply: Municipal

II. Initial System Type: Pump to Accepted **System Classification:** IIIb

Initial System Specifications:

Design Flow (gpd): 1450 LTAR (gpd/ft^2): 0.28 Septic Tank Size (gal): 2500 Pump Tank Size (gal): 2500

Trench Width (ft): 3 Trench Spacing (ft): 9 Absorption Area (ft^2): 3884 Total Trench Length (ft): ~~1295~~ 1335

Maximum Trench Depth (in): 30 Depth of Media (in): 12 Distribution Device: Pressure Manifold

III. Repair System Type: Pump to Accepted **System Classification:** IIIb

Repair System Specifications:

Design Flow (gpd): 1450 LTAR (gpd/ft^2): 0.28 Septic Tank Size (gal): 2500 Pump Tank Size (gal): 2500

Trench Width (ft): 3 Trench Spacing (ft): 9 Absorption Area (ft^2): 3884 Total Trench Length (ft): ~~1295~~ 1335

Maximum Trench Depth (in): 30 Depth of Media (in): 12 Distribution Device: Pressure Manifold

IV. Permit Conditions/Comments:

(Please See the Following Page for Permit Conditions.)

The undersigned, an authorized agent of the STATE OF NORTH CAROLINA, certifies that the Department is issuing an IMPROVEMENT PERMIT for the above referenced property. This permit is being issued in accordance with the *Laws and Rules For Sewage Treatment, and Disposal Systems* and is subject to the following provisions:

- No work shall be conducted on the septic system until a Pre-Construction meeting has been completed by the Department.
- The septic system installer shall be a licensed septic contractor with the North Carolina Wastewater Contractor Inspector Certification Board.
- The permitted system shall be installed in accordance with the included PLOT PLAN.
- This IMPROVEMENT PERMIT is transferable.

Authorized Agent: Jeremy Michelone Owner/Legal Agent: Jeff McLaurin

Signature: Jeremy Michelone REHS Signature: Jeff McLaurin

Print Name

Date Issued: 3/13/2023

Mecklenburg County Groundwater & Wastewater Services
3205 Freedom Dr., Suite 8000 Charlotte, NC 28208
Phone: (980) 314-1680 Fax: (704) 336-6894

NC DHHS
Division of Environmental Health
On-Site Wastewater Section

IMPROVEMENT PERMIT for a COMMERCIAL ON-SITE WASTEWATER TREATMENT & DISPOSAL SYSTEM

Permit #: **30013524** GWS File #: **11558B**

IV. Permit Conditions/Comments:

- Easement agreement forms shall be on file and the property shall be deeded and recorded prior to issuance of Construction Authorization.
- This type of septic system requires an inspection once every 5 years by our office. The system owner is responsible for any fees, as determined by the Mecklenburg County Board of Commissioners, associated with this inspection.
- All drainage improvements (swales, interceptor drains, etc.) noted on the plot plan must be inspected and approved prior to issuance of an Operation Permit.
- The septic system shall be installed in accordance with the plans submitted by the wastewater system design consultant.
- All components of the septic system must be installed in accordance with the required setbacks listed on the corresponding plot plan.
- All waterlines must be located a minimum of 10 ft. from any part of the septic system.
- Upon completion of the project the system designer shall provide Groundwater & Wastewater Services with a letter certifying that the system was installed in accordance with the approved design.
- The permitted system design requires a pressure manifold with varying tap diameters and/or pipe schedules. The contractor should review the specification detail provided by the system designer prior to bidding the project.
- The supply pipe shall be installed with a minimum of 30" of compacted cover over the pipe or properly sleeved under areas that are subject to vehicular traffic.
- Flow from all gutters and downspouts shall be directed not to discharge water onto or across any part of the septic system.
- All properties must be combined into one parcel before Construction Authorization granted.

The undersigned, an authorized agent of the STATE OF NORTH CAROLINA, certifies that the Department is issuing an IMPROVEMENT PERMIT for the above referenced property. This permit is being issued in accordance with the *Laws and Rules For Sewage Treatment and Disposal Systems* and is subject to the following provisions:

- No work shall be conducted on the septic system until a Pre-Construction meeting has been completed by the Department.
- The septic system installer shall be a licensed septic contractor with the North Carolina Wastewater Contractor Inspector Certification Board.
- The permitted system shall be installed in accordance with the included PLOT PLAN.
- This IMPROVEMENT PERMIT is transferable.

Authorized Agent: Jeremy Michelone

Signature: RS

Date Issued: 3/13/2023

Owner/Legal Agent: Jeff McSwain
Print Name

Signature: Jeff McSwain

Mecklenburg County Groundwater & Wastewater Services
3205 Freedom Dr. Suite 8000 Charlotte, NC 28208
Phone: (980) 314-1680 Fax: (704) 336-6894

Septic System Pre-Construction Meeting Checklist

File # 1155813 App# 13524 Tax Parcel# 113-092-03

Property Owner: City of Charlotte

Job Location Address: 600 E 4th Street

City: Charlotte State: NC Zip Code: 28202

1. Does System design match facility, flow & wastewater characteristics?

   ☑ YES ☐ NO

   Comments: _____

2. Is there sufficient available space for the septic systems initial and repair areas?

   ☑ YES ☐ NO

   Comments: _____

3. Can the septic system be installed per the permit conditions and drawing on file?

   ☑ YES ☐ NO

   Comments: _____

*If "NO" is checked for any of the above the existing permit may need to be revoked.

Permission is hereby given to ☑ install ☐ alter ☐ repair an on-site wastewater treatment & and disposal system, with subsurface soil absorption and effluent discharge meeting all of the construction requirements of 15A NCAC 18A .1900 which are in effect on the date of granting this approval. **System shall not be installed while soils are in wet condition.**

Matthew Hall
Authorized Agent

9/6/23
Date

Butler Grading, Avery Suggs
Others Present

Mecklenburg County Groundwater & Wastewater Services
3205 Freedom Dr. Suite 8000, Charlotte, NC 28208
Phone: (980) 314-1680 Fax: (704) 336-6894

NC DHHS
Division of Environmental Health
On-Site Wastewater Section

OPERATION PERMIT for an ON-SITE WASTEWATER TREATMENT & DISPOSAL SYSTEM

File #: 115583 Permit #: 30013524 Tax Parcel #: 113-092-03

Property Owner: City of Charlotte

Job Location Address: 600 East 4th Street

City: Charlotte State: NC Zip Code: 28202

Operation Permit Issuance Date: 8/21/24 Contractor Name: Butler Grading

Permitted Design Flow: 1450 GPD Liquid Capacity of Dosing Tank: 2500 gallons Two WC 3885

Liquid Capacity of Septic Tank: 2500 gallons Tank Manufacture Delinger Effluent Pump Model: 1/3 HP

Drainfield Installation ☐ N/A

Trench Depth: 30 inches

Trench Width: 3 feet

Line Spacing: 9 feet (O.C.)

Total line length: 1335 feet see design

# of Lines: varies @ _____ feet

Depth of Media: 12 inches (Type) POLY

Depth of Cover: 18 inches

Distribution Device: P. Manifold

Bed Installation *(For Repair Installations ONLY.)* ☐ N/A

Bed Depth: _____ inches

Bed Width: _____ feet

Total line length: _____ feet

# of Lines: _____ @ _____ feet

Depth of Media: _____ inches (Type) _____

Depth of Cover: _____ inches

Distribution Device: _____

Water Supply Source

☑ Municipal ☐ Private Well ☐ Community Well

☐ Other _____

System Installation Setbacks

Distance from Building Foundation: 75 feet

Distance from Property Line: >10 feet

Distance from Water Supply Source: 710 feet

Inspection Dates

Tank(s) Inspected: 2/20/24

Excavation Inspected: 2/20/24

Pump & Controls Inspected: 8/21/24

SKETCH OF SYSTEM INSTALLATION
(As-Built Drawing)

Installed per Design Professional Specifications. See Original File.

The undersigned has inspected the Septic Tank System described above, and certifies it has been ☑ installed ☐ altered ☐ repaired ☐ as detailed in the plot above ☑ in accordance with the permit issued and meets the provisions of 15A NCAC 18A. 1900, "Laws and Rules for Sewage Treatment and Disposal Systems" in effect on the date of issuance of the permit. The issuance of this Operation Permit does not in any way guarantee that the system will operate properly or relieve any person now or hereafter owning, controlling, or using such system from any liability resulting from the failure of the system to operate properly. This document is issued subject to those restrictions and conditions shown on the permit(s) and the provisions of 15A NCAC 18A. 1900 in addition to those listed below under "Comments." This document shall be null and void if any information contained in the application is untrue or if any additions are made to the property which would increase the requirements for said system.

Notice: Disturbance of the designated repair area may result in the Suspension or Revocation of this permit.

Comments: System Classification & Type: IIIb / pump to P. Manifold / POLY EZ flow / NA / NA

DENR Authorized Agent: Matt Hall, REH2496 Signature: Matt Hall

Mecklenburg County Groundwater & Wastewater Services
3205 Freedom Dr. Suite 8000, Charlotte, NC 28208
Phone: (980) 314-1680 Fax: (704) 336-6894

NC DHHS
Division of Environmental Health
On-Site Wastewater Section

OPERATION PERMIT for an
ON-SITE WASTEWATER TREATMENT & DISPOSAL SYSTEM

File #: 1155813 Permit #: 13524 Tax Parcel #: 113-092-03

Property Owner: City of Charlotte

Job Location Address: 600 E 4th Street

City: Charlotte State: NC Zip Code: 28202

OPERATION PERMIT CONDITIONS:

I. Performance: System shall perform in accordance with 15A NCAC 18A .1961.

II. Monitoring: System shall be monitored as required by 15A NCAC 18A .1961.

III. Maintenance: Ground absorption sewage treatment and disposal systems shall be checked, and the contents of the septic tank removed, periodically from all compartments, to ensure proper operation of the system. The contents shall be pumped whenever the solids level is found to be more than 1/3 of the liquid depth in any compartment.

IV. Operation: System shall be operated in accordance with 15A NCAC 18A .1961.

System Classification: IIIb

*Operation Permits for Type V and VI systems expire five (5) years from the date of issuance (in accordance with Table V(a)). The system owner must contact GWS six (6) months prior to expiration for permit renewal.

Subsurface system operator required: Yes ☐ No ☑

☐ This type of system requires the system owner to maintain a contract with a certified operator to perform system inspection, maintenance, and reporting as required in 15A NCAC 18A .1961. and Table V(a). The system owner is responsible for all fees associated with these services.

☐ System does not require inspection by GWS on a routine frequency.

☑ System requires inspection by GWS once every five (5) years. The system owner is responsible for all fees associated with the inspection.

☐ System requires inspection by GWS once every three (3) years. The system owner is responsible for all fees associated with the inspection.

☐ System requires inspection by GWS once every twelve (12) months. The system owner is responsible for all fees associated with the inspection.

☐ System requires inspection by GWS once every six (6) months. The system owner is responsible for all fees associated with the inspection.

V. Other:

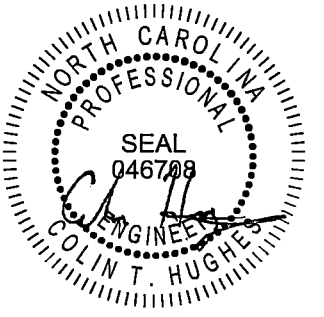
DENR Authorized Agent: Matthew Hall Date: 8/21/24

Signature: Matt Hall

900 West Trade Street, Suite 715
Charlotte, NC 28202-1144
o. 704.372.1885 | f. 704.372.3393
stvinc.com

Wednesday, August 21st, 2024

Mecklenburg County Health Department
ATTN: Groundwater & Wastewater Services
Valerie C. Woodard Center
3205 Freedom Drive, Suite 8000
Charlotte, NC 28208



SUBJECT: CLT Airport Overlook
Septic System Permit Release Request
STV Project No.: 4019901

To Whom It May Concern:

On behalf of Charlotte Douglas International Airport, we are requesting the release for the septic permit associated with the system installed as part of the CLT Airport Overlook project. The septic system was constructed and conforms to meet the latest approved design and project specifications.

As witnessed by representatives from Charlotte Airport, Mecklenburg County Health Department, STV Engineers and the project's contractor, Crowder Construction Company, the system was successfully tested on 8/21/2024, achieving the required minimum 2' of pressure head at the septic pressure manifold.

If there are any questions or additional information needed regarding this permit release request, please contact me.

Regards,

Colin Hughes, PE
STV Project Manager
colin.hughes@stvinc.com
(704) 348-4068

cc: CLT Airport